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CALENDAR FOR MAY.

"Born in yon blaze of orient sky,
Sweet May! Thy radiant form unfold;
Unclose thy blue, voluptuous eye,
And wave thy shadowy locks of gold.

"For thee the fragrant zephyrs blow,
For thee descends the sunny shower;
The rills in softer murmurs flow,
And brighter blossoms gem the flowers."

DR. DARWIN.

MAY opens with a full chorus of singing birds, whose voices may now be heard in all directions, inviting us abroad to engage in the early duties of Spring, and to cheer us in our labors. All men are delighted with their songs, not excepting those who are indifferent to the strains of artificial music. The notes of birds have a charm for us exceeding everything else in nature. All men acknowledge the birds as their friends and benefactors; and yet they seem bent upon their destruction. It cannot be that our people fully realize the value of the services of the feathered tribes, or they would certainly use more endeavors to foster and protect them. We feel, therefore, that we cannot perform a more important service with our pen at the present time, than to present a few reasons, not only for protecting the birds, but for taking pains to cause the multiplication of some of the most valuable species.

The grand service performed by the feathered race is the devouring of insects, whereby they prevent their excessive increase, and the consequent destruction of our fields. Let us for one moment consider what an enormous quantity of insects would come into existence, were it not for the agency of another race in destroying them. It is highly probable, notwithstanding the infinite hosts that infest our gardens, our orchards, and our forests, that by far the greater part of all that burst into life are destroyed in the early stages of their existence. They are devoured in their grub state, and are thus prevented, not only from becoming themselves perfect insects, but also from continuing their species. Many are also destroyed in the eggs by the smaller kinds of birds. Were all those which are thus prematurely devoured, permitted to live out the full period of their existence, such would be the vastness of their numbers, that almost any species would swarm like the locusts of Africa. All kinds of vegetation would be destroyed by them; and the consequent loss of their means of subsistence would be the only cause of their destruction.

Without the agency of the small birds, therefore, it is safe to say, that man could not exist on this terrestrial globe. It would be impossible to devise any other means by which the over-multiplication of insects could be prevented. Our grain and grass crops would be destroyed in the herb by the grasshopper and locust tribes; in the grain by weevils and other seed eaters; our trees would be perforated and killed by increased multitudes of borers; their foliage consumed by caterpillars, and their fruit by the larva and butterflies. In their different stages of existence, each separate species would successively attack the roots, the herb, the wood, the bark, the leaf, the flower and the fruit, until nothing would be left of vegetation either to man or to nature. Lastly, the atmosphere would swarm with such darkening legions of small flies, gnats and musquitoes, that

it would be rendered uninhabitable, and man would perish from the face of the earth.

This is no exaggerated supposition, and it is only necessary to watch a few single birds of the insectivorous tribes, to be convinced that the service they perform in the economy of nature is infinite; and that it is impossible to overrate it. Last winter we took occasion frequently to watch the movements of the little chickadees, the most persevering and industrious of all our birds whose services are continued throughout the year. At a distance we could only observe their diligence in examining every part of the trunk and branches of the trees, every few seconds pausing to peck at something, and swallowing the living morsel which they had drawn out of its security. One of these birds came nearer to our window, where we saw him diligently searching under the roof of a fence, and in less than half a minute he destroyed three chrysalids, eating out the interior of each as readily as a weasel would suck a bird's egg. We have seen the same birds in June, destroying quantities of the cocoons of the common caterpillar. If one of these birds destroys three chrysalids in every half minute, how many chrysalids would a million of the same birds destroy, working ten hours in the day, in the course of three months? If this be not a fair way of putting the question:—substitute insects or embryos for chrysalids, and then the answer to the question would afford us an idea of the immense service performed by this single species.

When we consider that almost every other species is employed during the whole or a part of the year in the same work, how is it possible to make an exaggerated estimate of the number of insects which are consumed by them? Some idea may be formed of this amount, by the quantities which are almost always found in the crops of birds, when they are dissected. In a night-hawk, which was shot by Mr. Gosse, as afterwards examined, the stomach was stuffed with an amazing quantity of insects, consisting chiefly of small beetles. Of the latter alone there were about two hundred. According to an estimate made by Buffon, a pair of sparrows will destroy about 4000 caterpillars weekly while feeding their young. Alexander Wilson ascertained by frequent dissections of the common red-winged black-bird, that each bird, on an average, devoured about fifty grub-worms in a day. A single pair, in four months, the usual time they live upon such food, would consume upwards of 12,000, according to this calculation, which is moderate. It is believed that not less than a million pair of these birds are distributed over the United States in summer, whose food being nearly the same, would swell the amount of vermin destroyed by them to twelve thousand millions. In addition to these may be reckoned another vast quantity, with which they supply their young, who consume more than the old ones.

Audubon bears continual testimony to the inestimable services of birds, in preventing the injurious increase of insects. In his description of the cat-bird, he remarks: "The vulgar name, which this species bears, has probably rendered it more conspicuous than it would otherwise be, and has served to bring it into some degree of contempt with persons not the best judges of the benefit it confers on the husbandman in early spring, when, with industrious care, it cleanses his fruit trees of thousands of larvæ and insects, which in a single day would destroy, while yet in the bud, far more of his fruit than a cat-bird would eat in a whole season. But, alas! selfishness, the usual attendant of ignorance, not only heaps maledictions on the harmless bird, but dooms it to destruction. The boys pelt it with stones, and destroy its nest whenever an opportunity presents; the farmer shoots it to save a pear, and the gardener to save a raspberry; some hate it without knowing why; in a word, except the poor, nearly extirpated crow, I know no bird so generally despised and tormented as this charming songster."

The purple Grackle, or crow blackbird, is another species against which our farmers entertain an inveterate prejudice, because he is a pillager of corn. Audubon pleads the cause of this bird in the following language: "No sooner has the cotton or corn-planter begun to turn his land into brown furrows, than crow blackbirds are seen sailing down from the skirts of the woods, alighting in the fields, and following his track, along the ridges of newly-turned earth, picking up the grubs and worms that are turned up with the furrows. He follows the husbandman, as he turns one furrow after another, and destroys a far worse enemy than himself, to the corn; for every grub which he devours would cut the tender blade, and thus destroy the plant when it would be too late to renew it by fresh seed. Every reflecting farmer knows this well, and refrains from disturbing the Grackle at this season. Were he as merciful at other times, it would prove his grateful recollection of the services thus rendered him." In harvest time, according to Audubon, the Grackles consume a great deal of corn, because the grubs and worms have retired to their winter quarters, and the beech-nuts have not yet fallen from the trees. How ungrateful it seems in man, after receiving incalculable service from certain birds in spring and summer, to shoot them in the autumn for taking a little corn, which is necessary for their subsistence during a few weeks of that season. What should we think of the humanity of a man, who, after receiving

the services of a set of hired men for a few months, should, just before their pay-day arrived, enter a suit of damages against them, and send them all to prison, to escape paying them their wages? The corn and fruits which are devoured by the birds are the wages of their labor, and probably the amount is far less than we should be willing to pay for the services they perform, if the service was conditional. Audubon remarks, in another part of his work, that whole forests are sometimes destroyed by grubs and caterpillars which had multiplied on account of the sudden scarcity of certain species of birds that feed upon them.

Birds are often killed, from the ignorant belief that they are guilty of mischief which could never truly be laid to them. In western Virginia, some years since, when the forests were much injured by a species of borers, the farmers employed themselves in exterminating the woodpeckers, supposing these harmless and useful birds were the cause of the mischief, by perforating the trees with their hard beak. An intelligent traveller convinced them that the woodpeckers devoured these borers when they were hammering upon the trees, and that their security from these pests must depend on the multiplication of this race of birds. A year or two since, a correspondent of one of our agricultural papers stated that a neighbor of his expressed a wish to destroy the yellow birds, which he in common with other farmers, supposed were in the habit of destroying wheat. By the correspondent's suggestion the farmer opened one of these birds which he had killed, and on examining its crop, he found that the bird, instead of eating the wheat, consumed the weevil, the great destroyer of wheat! He found as many as two hundred weevils in the bird's crop, and but *four* grains of wheat, each containing a weevil! The name of this species of bird was not given; but it was described as a fine singer, and bearing resemblance to a canary. How often does ignorance thus defeat its own ends, by mistaking the cause of certain evils which it seeks to prevent!

We might pursue this subject, until we had written a volume; but our present object is merely to make a few suggestions, that may lead our people to pause and reflect upon the consequences of their actions, when they are wantonly destroying the birds, either for game, or to punish them for stealing fruit. The inhabitants of old countries understand the value of birds, and appreciate their services better than we do, because the experience of former generations has proved their utility. In Japan it is said that birds are regarded as sacred, and no person is allowed to kill them under any pretence; and when the late treaty between the United States and that country was concluded, a condition was inserted to protect their birds from the guns of our sportsmen. We have not the least doubt that the increased ravages of borers, curculios and other pests of our orchards, during the last ten years, may be attributed to the greater disproportion between the numbers of the birds and the numbers of our orchards, the increase of birds not having kept pace with the multiplication of fruit trees. It is important, therefore, that every citizen, who is convinced of these facts, should use energetic methods to prevent others from destroying the birds, and to cause their multiplication. It is a sacred duty which he owes to his country.

SUPER-PHOSPHATE OF LIME.

As the subject of agriculture is of the greatest importance to the country, we hold ourselves in readiness at all times to publish whatever may tend to its advancement. The following communication, coming from a distinguished gentleman and agriculturist, is of high value as testimony in favor of Coe's Super-Phosphate of Lime:

I have used Coe's Super-Phosphate of Lime for three years past, principally upon corn, applying it to the crop in various ways. It is my usual practice to spread compost manure broadcast, and put the Super-Phosphate in the hills, about a table-spoonful to each. Its effect thus applied is very apparent and striking, causing the corn to shoot ahead with great luxuriance. The deep green color of the stalks is at once noticeable, at as great a distance as the eye can distinguish colors at all. The rapid, healthy growth of stalk induced by it, helps to insure a large growth of ears, and well matured grain upon them.

I have also used this Super-Phosphate broadcast upon land sowed to oats and other grain, with grass-seed, putting on about 250 pounds per acre. The crop of grain and of straw was considerably increased thereby, and a superb catch of grass obtained. Finally, I have never known the instance where Coe's Super-Phosphate has not, on trial, proved to be an excellent article.

Very respectfully yours,

F. HOLBROOK.

Brattleboro', Vt., March 14, 1861.

PRUNING ROSES.—The *Gardener's Monthly* says:—"The fall-blooming kinds, which flower on the new growth, may be pruned as severely as we wish—in fact, the 'harder' they are cut in the better. In this class are the Noisette, Bourbon, Tea, China, and Hybrid Perpetual, and Perpetual Moss. Without considerable experience it is difficult for the amateur to distinguish these classes; the best way to get over the difficulty is to obtain the catalogues of the principal rose-growers, in which each kind is usually classified."

RAIN-FALL.—With an average annual rainfall of thirty-one inches, the quantity of water thrown down upon each acre of ground is nearly *three thousand tons*.

MILL-OWNERS AND LAND-OWNERS.

BY JUDGE FRENCH.

The right of a land-owner is one of the rights most sacredly protected by the common law of England, which is the basis of the laws of all our States, with the exception of Louisiana. The land-owner is land-*lord*—lord of the soil—and as such, as a *freeholder*, has, even in our republican times, when most distinctions of estate have been abolished, some privileges above other citizens in most of the States.

The conflict of the rights of mill-owners with those of land-owners, is beginning to attract the attention in this country which it has long received in England.

The most valuable lands in the country are generally those which lie upon the streams and rivers, whether known as intervales, bottom lands, swamps or meadows, and these are the lands which are at once injured, if not entirely ruined, by any obstruction of the streams upon which they are situated.

In New England, and many other northern, and some southern States, as in England, manufactures constitute an important element of prosperity, and deserve and receive all encouragement consistent with the public good. Water power is the natural and principal, as it is still the cheapest, agent for turning the wheels of factories and work-shops. Water power can be raised only by dams across the streams, and dams obstruct the natural flow of the current, and throw back the water upon the land above, either submerging it entirely, percolating water through it below the surface, or merely taking away the fall so as to prevent drainage, according to the situation of the land along the banks.

Now, a conflict of interests is inevitable between the mill-owner and the land-owner, and probably no experienced farmer will read this article without being reminded of some instance within his own knowledge where the farmer has been seriously injured by the obstruction of some stream, large or small, passing through or along his farm. Controversies and lawsuits, expensive and almost interminable, occupy the attention of the courts of law, arising from the obstruction, whether rightful or wrongful, of the flow of the water. The mill-owners, usually capitalists, and organized into powerful corporations, know and appreciate not only their rights, but their power, while the land-owners, scattered and often poor, are peculiarly liable to suffer imposition. Mill-owners, like other men, are selfish, and as their business is at the dam, and not on the land above, they attend more to increasing their water power than to its effects upon the farmer.

And thus it happens, that wherever there are mills and mill-dams the interests of agriculture suffer, and there is constant danger that they will suffer wrongfully.

An agricultural paper is not the proper place for a nice discussion of legal rights, and no such discussion is here intended. A few plain statements, however, of the legal rights of land-owners, as against those who own mill-dams, may call the attention of farmers to their own interests, and prevent bad legislation, for water power companies are by no means satisfied to leave the matter to the common law, but are constantly asking aid from the State in the form of statutes. In several States, as Massachusetts and Maine, there are special statutes, called Mill Acts or Flowage Acts, which authorize the flowage of land, *without the consent of the owner*, making him such compensation as a board of commissioners or jury may think proper to pay him.

A recent occurrence in Boston, before a committee of the General Court, well illustrates the operation of these flowage acts. A water company had applied for authority to raise a pond in a neighboring town, and Hon. Edward Everett appeared to object. He is reported to have stated to the committee, that he had purchased the land in question for a home for his declining years, and that it was a source of great consolation to him, that, as shown by the surveys, it was proposed to put the water upon his land but two feet deep, while all around him was to be covered much deeper.

This strange provision, this sacrifice of the rights of the land-owner to the convenience of the manufacturer, originated at an early day in Massachusetts, when it was important to encourage "corn-mills," which were essential to the very existence of the colonists, and has been enlarged and continued for the encouragement of manufactures.

The right to take private property for the *public* use, as for highways and the like, is every where admitted, and is essential to every government; but the power to take a man's land against his will, for the *private* interest of another man or company of men, is a violation of the first principle of property. As a new question such a proposition would find no favor with any court of law in all Christendom, but the principle has crept so thoroughly into operation in a few States, that to declare it unconstitutional at this late day, would produce infinite confusion.

In the States, as in New York, where no special statutes exist, the right of the land-owner remains sacred. *He has the most absolute dominion over his land, consistent with the equal rights of other land-owners.* No man below him can legally check the water or put one drop upon his land to his injury.

The fundamental principle as to all streams and rivers, as applicable to the land-owners on the banks, translanted from the old law-Latin is —*The water runs and ought to run.* This means simply, and such is the law, that all the rights of riparian owners are limited to their use of the water *as it runs.* They make reasonable use of the flowing water for their families, their cattle, and agricultural purposes, but they cannot stop it or divert it from its natural course. The right to raise water by dams does not belong to any man as a mere land-owner. Of course he may raise a pond on his own land if he injures nobody, but his pond is a nuisance to any one whose land is injured by it, and his dam may be torn down without legal process.

The mill-owner, then, has no natural right, no common law right, and if he have no right by special statute, he has no right except what he buys of the land-owners. His right, when purchased, is an incumbrance, a servitude on the land of others, exactly like a right of way which a man may grant to another to pass over his land. If he has purchased a right to flow ninety-nine

of a hundred tracts of land, the mill-owner has no right to flow the other, without consent of the owner of the other.

It has been said that the mill-owner has only such rights as he has purchased. This may, perhaps, require modification. The right to property, even land, may be acquired by adverse use, or possession as it is commonly termed, for a certain time. So a right to flow land may be acquired by adverse use, or prescription.

The term in most of the States is 20 years, so that if a mill-owner keeps up the water, claiming the right to do so, 20 years, he gains the right.

The foundation of this principle is this: that if a man allows another to flow his land 20 years, it is fair to presume that he has granted him the right, and been paid for it.

The principle is well enough, but it probably operates more harshly in these cases of flowage than any other, because the rising of water is very insidious, and its effects hardly observable at first.

The object of these suggestions is,

First—To define clearly the rights of the land-owner.

Second—To show what rights the mill-owner has, with or without a flowage act.

Third—To warn the land-owners where no flowage act exists, to resist such legislation.

Finally—To guard farmers against losing their land by suffering it to be flowed so long as to have lost their remedy.—*Country Gentleman and Cultivator.*

For the New England Farmer.

WINTER FEEDING OF MILCH COWS.

It is doubtful if the majority of our dairy farmers have yet fully satisfied themselves as to what description of winter feeding is productive of the best results. They have, however, probably learned one important fact; that it is not always, if ever, profitable to make use of such articles of food as will ensure the greatest return of milk. An important consideration should be the condition of the herd in the spring; and if the farmer finds by the use of turnips, and other roots, instead of some less economical food, he has secured a greater yield of milk, on the whole, his success cannot be regarded as complete, inasmuch as the condition of the herd in spring time may be anything but satisfactory to him.

I may not be sustained by a majority of farmers in the assertion that roots for milch cows are not the most economical of food. In this country the cost of labor is too great, to say nothing of the present unproductiveness of most soils, to warrant experiments and large outlays in root growing, and it has always seemed to me that most farmers have committed mistakes in their estimate of the cost of feeding either hay or grain, and should a careful account of the weight and cost of hay and other food be kept, it will be found to be considerably greater than is frequently assumed.

A cow of five years' growth will consume 20 to 25 lbs. of hay daily, and will require besides, in order to afford a good supply of milk, one to two quarts of Indian meal.

From an experiment with a single cow, during the present winter, I have ascertained that 20 lbs. of cut hay, 12 quarts of shorts (or wheat bran) and one pint of Indian meal, is a moderate daily consumption, and no more than will keep a young and thrifty cow in good condition. Assuming then 20 lbs. of cut hay, and 12 quarts of shorts, as a minimum, for the daily allowance of a single cow, it will be found that the cost of such quantities, at present prices, in our section of the country, cannot be less than 40 cents. This is much greater than is usually conceded by most farmers; and it must be a good cow, indeed, that can repay the owner even the cost of the food.

But my main object in alluding to the subject is simply to say that it is a matter of regret that among the many experiments now being made, some definite and certain plan of winter feeding, more profitable than all others, has not been settled on.

F. E. F.

For the New England Farmer.

FARMING OPERATIONS MADE PROFITABLE.

F. HOLBROOK, ESQ.—*Dear Sir:*—If you will not consider it too much of an intrusion upon your time and patience, I would esteem it a particular favor if you would advise me as to the best mode of proceeding with some of my farming operations. The matters about which I need information are not new; indeed, I fear you have already given the advice which I require, so many times as to be quite "a-weary" of the applicants. Still, if there are many who have profited by the experience of others, or been lucky enough to hit upon a course themselves with which they are satisfied, there are surely thousands now in the field, and yet to be, who desire to be piloted by those who, like yourself, are well versed in all that requires mind and experience for successful agriculture. Will you therefore allow me, as an indication of the kind of information I desire, to propound the following interrogatories, a reply to which at your convenience would gratify me much.

1. I have a field of several acres of green sward that needs to be plowed up, and I design it for a corn field the coming season. Last August I had a large quantity of muck dug from the swamps, and dumped in large heaps on the nearest dry land. The muck could be drawn directly to this field with much less cartage than if it was first taken to the barn-yards. How will it do to haul the muck directly to the field, and draw manure there from the stables and yards, and mix them in compost heaps? What proportions of each should be used, and will the heaps have sufficient fermentation before planting time? How shall the compost be applied, and in what quantity?

2. My muck bed embraces several acres; the deposit varying in depth from one to four or five feet. I judge it might be made a valuable source of fertility for the farm. In what ways can I manage this muck to advantage for the improvement of the farm?

3. I always had a fondness for farming, but circumstances in early life turned me into other pursuits. At length I have resumed my favorite occupation, and desire to make a pleasant rural home. I have means to farm it as I please, but still, as a business man, and on principle too, I wish to so manage as to farm for a profit, and set

a useful example to others. I am willing to make any judicious investments in the improvement of the soil itself, that will, as a practical business operation, pay a fair return. With this brief preface, I would say that the tillage land of my farm has been rather superficially cultivated, and the surface soil is a good deal worn. I have not much practical experience in regard to soils, but it has seemed to me that the subsoil should be taken into account in judging of the character and capacity of land. I have examined the subsoil in various places, and find it to be mostly a stiff and close brown or yellowish loam, and usually packed down hard. How shall I proceed with this land, what kinds of plowing do I want, how deep shall I plow, how cultivate afterwards, and in short, what plan of improving husbandry shall I pursue to make it productive?

4. I have thirty or forty acres of land near the buildings, which I desire to convert into productive pasture, principally for milch cows. The land is somewhat uneven, but sufficiently level for plowing. It has been impoverished by occasional grain crops, and in the intervals between them by overfeeding with stock. The soil has apparently never been stirred more than four or five inches deep, but the subsoil appears to be pretty good, and tolerably free from stone. How shall I manage to make a good pasture of this tract of land?

5. Can I make profitable use of Peruvian guano, either as a sole fertilizer of land, or as an assistant to fertility on land otherwise well manured, and if so, to what crop or crops can it best be applied, and in what quantity?

6. I have a lowland meadow of fifteen to twenty acres, subject to overflow by freshets setting back from the river. Though the flowing usually occurs in spring, yet it sometimes happens in summer or fall, and therefore grass is the only safe crop to raise. The surface of the meadow is nearly level, but in places there are certain slight depressions, and on these portions the water remains so long after the subsidence of the flood that it stagnates upon and chills and poisons the land. Coarse water grasses are therefore the only product. The soil is a deep, stiff loam. It appears to me that the flooding of the meadow, together with the sediment brought on thereby, would be beneficial, provided the surface water could be disposed of quickly, or made to pass off with the falling of the stream. Now, if I have succeeded in conveying an intelligent impression of the lay and condition of this tract of lowland, will you please advise me how to proceed to make it good sweet mowing land?

7. I have in another place a few acres of what is called bog meadow, which I wish to improve for mowing lands, it being desirable to make all the hay crops I can for winter use. This piece of meadow was imperfectly drained years ago, but the muck being in some places quite deep, and the cultivation difficult, the productions have now become mostly the coarse wild grasses. I have already drained the meadow thoroughly, cutting off the springs that flowed in from the higher land. I now wish to introduce upon it a better quality of grass. How shall I manage to convert this land into good mowing by the quickest process?

As I before remarked, I am sure that the information I am now seeking to obtain from you, would be interesting and useful to many others, who, like me, need advice. Therefore, if it would be agreeable to you, I should be pleased to receive your reply through the *New England Farmer*, as I am a constant reader of that paper, but in that case I should prefer to be "*incog.*," as to name and residence, feeling too inexperienced in farming pursuits to appear by name in print.

Very respectfully and truly yours,

———, *Feb.* 11, 1861. —.—.

To ——— ———:

My Dear Sir:—I have your favor of the 11th inst., and employ my earliest leisure to respond to it in the way you request. Your interrogatories embrace a wide field of farming, and certainly evince a good deal of interest and enthusiasm on your part in farming matters. I am led to conclude that you will probably find success and satisfaction in agricultural pursuits, for you evidently have a decided taste for them. I have had occasion several times, either by private or public communications, or by both, to answer inquiries similar to some you propose; but nevertheless, your questions shall now be answered as well as I am able to do it in the limited space of one or two communications. Some of them might, singly, well demand a whole article for an answer. I have numbered them, for convenience of reply.

1. It will work well to make the compost of muck and manure on your intended corn field, as you propose. Place the heaps at convenient distances on the field for the final distribution of their contents upon the land, and put in all, say thirty to fifty loads in each heap. The heaps should be piled in alternate thin layers of each material, say of four to six inches thickness—thus more perfectly mixing muck and manure than would be done by putting on larger quantities of each at a time. The piles should be laid up as lightly as possible, and the height should not be more than about five feet, lest the bottom courses should be too much compressed to heat and ferment well. The heaps may be of convenient width, and of suitable length to contain the desired quantity. The composting should be done with system and nicety, so as to secure a fermentation of the heaps that will cut down the coarser portions of the manure as well as sweeten and decompose the muck, and make it the fit food of plants. A bungling workman could rapidly tumble the muck and manure together at haphazard, perhaps driving his team up on to the heap, tipping up a load in a place, and treading the layers down solid, but the result would be that the desirable fermentation and decomposition would not be secured, and the compost would not be prepared for use between this and planting time. But if properly laid up, the piles will soon begin to heat, and in a few weeks may be shovelled over, and in a week or two after that, the compost will be fit for spreading. The labor of shovelling over will be well repaid in the superior fineness and effectiveness thereby imparted to the manure. I have made up heaps of this kind as late as the 10th or 15th of April, overhauled them in two or three weeks after, and had them fit for use by the 10th of May.

With horse or sheep manure, or other strong stable manure where grain or roots have been fed to the stock, you may put at least two parts of

muck to one of manure; but yard manure, being coarser and not so strong and active, will not bear more than equal parts of muck with it. In either case, however, somewhat larger quantities of muck in proportion to manure may be used, provided the muck has previously lain a year or more in pile on dry land, to drain, disintegrate, and in a measure part with its acidity.

At the suitable time in spring, plow your green sward nine or ten inches deep, say with a sod and subsoil plow, if the land is free enough of obstructions to permit the use of that kind of plow; if not, then use a large enough plow of the common green sward form to accomplish that depth of furrow. The plowing should be accurately and nicely executed, making the furrows meet and match well, and shutting the sod down beneath securely out of reach of subsequent tillage. Then spread the compost broadcast on the surface of the plowed land, putting it on as liberally as your heaps will allow. Seventy-five loads per acre is a good dressing, but thirty-five or forty loads is still better. After evenly spreading the manure, plow it in about four inches deep, with a light, sharp plow, guaged to the right depth by a wheel on the beam. This incloses the manure perfectly with mellow earth, which by its mellowness, absorbs and holds the goodness of the manure, and yet the compost is in a situation to be immediately, as well as at all other times, available to the growing crop, and to receive suitable atmospheric influences to promote a perfect decomposition, and to enliven and improve the upturned soil. Green manure, as such, is not much more the food of plants than a raw potato would be for man. The valuable properties of manure are brought out by decomposition. That develops the fertilizing salts which the roots of the crop take up, and which at once give the plant that healthy, deep green color, and thrifty growth which delight the eye and ensure the crop. The green raw manure imparts no such hue to the plants, but gives instead a yellow tinge and a less healthy, vigorous growth. Then, too, green manure, by the heat it generates in pile, is very serviceable in converting muck and other crude vegetable and earthy matters with which it may be composted, into a decomposed and suitable state to become themselves the food of plants, and for this reason, if for no other, it is better economy to compost green manure than to use it to any great extent alone.

2. Doubtless you rightly judge that your bed of muck is a valuable deposit for increasing the fertility of the farm. To manage the muck to advantage, the first thing to be done, is to suitably drain the swamp. Open a substantial and capacious main ditch from the swamp to ground low enough to carry off the water, digging the ditch as low as, or a little lower than the deepest portion of the muck in the swamp. Then ditch around a given square or piece of muck, so as to separate it on all sides from the main swamp, thus cutting off the water, and leaving this piece of muck high and dry, that it may be conveniently dug and carted out to dry land at pleasure. Endeavor to get beforehand with the muck, so as to have a suitable quantity of it always on hand in heaps on dry land, and that has thus lain for a year before it must needs be used for composting. The muck thus becomes dry and pulverized, and considerably freed of acidity, and is a more perfect absorbent of the gases, liquids and salts of manure, and may be used in larger proportions with manure, than if it were taken soggy and raw from the swamp.

After thus lying in heap a suitable time, the muck may be drawn directly to the field where it is to be used, and there composted with manure, as you have proposed. Or it may be drawn to the barn-yards and sheds in the fall, and a coating of it spread over the bottom of those places, say four to six inches thick, to catch the manure droppings and leachings. Then at two or three different times during the winter, muck may be drawn to these places, and a thin coat, say three or four inches thick, spread over them, thus from time to time mingling the muck with the litter and manure which there accumulate. In the spring, two, three or four weeks previous to planting time, it would pay well to draw out these accumulations, if they are needed for use, to the fields where they are wanted, and pile them in heaps of twenty-five or more loads, at convenient places for further distribution on the land, that they may undergo a heating and pulverizing process before being committed to the soil. This is not absolutely necessary, but it would pay well for the labor, as the compost could then be more evenly spread and more perfectly mingled with the soil.

If convenient, make a water-tight trench behind the cattle in the stables, say twenty to twenty-four inches wide and four inches deep, and fill it daily through the foddering season with dry muck. You can use at least a bushel of muck daily to each grown animal. If you have litter for bedding, put that under the cattle too. The contents of the trench, together with wet portions of the litter, may be daily thrown into a cellar, or under a deep shed open on the south side. The north side of buildings is not a good place for compost to be exposed. By this trench mode of composting, you catch and hold every thing, liquid as well as solid, and the droppings falling warm upon the muck, have an immediate action upon it; the compost being made day by day in small quantities, becomes intimately mingled, and makes superb manure for almost any purpose. A warm and convenient place should be provided to receive the muck for this mode of composting, and it should be filled with dry muck. Some persons, instead of using a trench, spread muck under the cattle, and then cover it with litter, repeating the process daily, and they say they like it well. Others, who have barn cellars, throw the manure of the stables there, and at short intervals spread muck over it. But if you practice that way, see that your cellar is not too close, damp and dark, for the compost needs suitable atmospheric influence to promote in it a wholesome fermentation and decomposition. Deposit your horse manure in a cellar or covered pen, frequently throwing muck upon it, and let a few swine work it over. You can thus preserve this very active, volatile manure from injury by overheating or loss by evaporation, and make a very effective compost.

You can compost dry muck with unleached ashes, using two to four bushels of ashes to a common cart buck load of muck, mixing the pile in thin layers at a time of each, and shovelling

over once before using. Or compost the muck with lime, dissolving, if you please, a bushel of salt in water enough to dry slake about five bushels of lime, and then using one to two bushels of lime to a cart load of muck. These are excellent composts for top dressing grass land, for fruit trees and shrubs. You can find the process of making these two composts, and indeed all the others above named, more fully detailed in back volumes of the *Farmer*.

In another communication I will endeavor to answer your other inquiries. F. HOLBROOK.

Brattleboro', Vt., Feb. 24, 1861.

For the New England Farmer.

HOW TO MAKE MILK CHEAPER.

MR. EDITOR:—The only way to gain a practical knowledge of a science or profession is by personal experiment and application, or by availing ourselves of the experience of others. To no profession does this apply with more force than to that of farming; and the only way to perfect the science is to avail ourselves of the experience of others, carry forward the experiments began by them, and communicate the results to the public, that they may be benefited by our labors, and "learn the evil to be shunned, the good to be pursued." He who acts on this principle adds to the sum total of knowledge relating to the subject acted upon. Hence the value and importance of book farming. Farmers, as a class, are very loth to deviate from the beaten track of their fathers, and adopt any new method or notion. They require "line upon line" to awaken their ambition and to stir up their dormant energies.

Acting according to the principles stated above, I wish to add my mite to the sum of agricultural knowledge on a subject of great importance to a large class of your readers, viz:—*Milk Raising and Cultivation of Roots.* I have been trying for several years to obviate the necessity of expending so much money for feed for cows during the winter, as our profits are greatly diminished by such outlays, and think I have found a substitute which can be raised very cheaply, and will create a large flow of milk of good quality. I refer to to the *Mangold Wurtzel.* I believe them to be the best and most profitable crop that can be raised on a milk farm. My method of raising them is as follows: I select a piece of good, strong land, rather moist than dry, and free from stones, that had been planted the previous year; and as early as possible in the spring, cart on 30 ox loads of good manure per acre; spread and plow it in immediately and let it lay till the last of May; then plow, harrow and brush it to break the lumps; mark off into rows and hills, 18 inches by 12 inches; let a boy drop one seed in a hill; follow with a hoe and cover up, and with a one horse roller roll all smooth. It is of great importance to have them planted in hills at regular intervals to facilitate the operation of weeding and as it is impossible to sow the seed with regularity with any machine I have ever seen, we must resort to planting by hand, which in the end is the most economical. A man and boy will plant one-half acre per day. My marking machine is as follows: Make two wheels 20 inches in diameter, of plank; to the rims affix cones, 12 inches apart, 2 inches long, and 2 inches in diameter at the base; attach the wheels to an axle 18 inches long, add a spear or handle, and it is complete. As soon as the beets are out of the ground, run a wheel hoe with a sharp knife 15 inches long between the rows, then let them stand a week or ten days, then repeat the operation, and with a hand hoe cut between the hills, and the work is done. This must be repeated as the weeds show themselves, and be careful and not let the weeds get the start, as it will require extra labor and patience to subdue them. As from 2 to 4 plants will come from one burr, I prefer to let them all grow, as I am satisfied from observation that I get more bushels than when I thin out to one plant. Harvest before the hard frosts. From 15 to 25 tons per acre is the usual yield. Brother milk-raisers, try them. You will not regret it. M. H.

Bolton, March, 1861.

REMARKS.—We believe our correspondent is correct in his views of making milk much cheaper than we have done it, by producing and feeding roots. Many persons complain that beet and mangold seeds do not come up well. We think it is because they are sown too deep. They are large, and soon become moist, and in that condition if they do not feel the solar heat, they soon rot. If the "cones" or pegs of his "marking wheel" make holes two inches deep, we should think the seed would get too low.

DRINK PURE FRESH WATER.—Set a pitcher of water in a room, and in a few hours it will have absorbed nearly all the respired and perspired gases in the room, the air of which will have become purer, but the water utterly filthy. The colder the water is, the greater its capacity to contain these gases. At ordinary temperature, a pint of water will contain a pint of carbonic acid gas, and several pints of ammonia. This capacity is nearly doubled by reducing the water to the temperature of ice. Hence water, kept in the room awhile, is always unfit for use. For the same reason, the water in a pump stock should all be pumped out in the morning before any is used. Impure water is more injurious to the health than impure air.

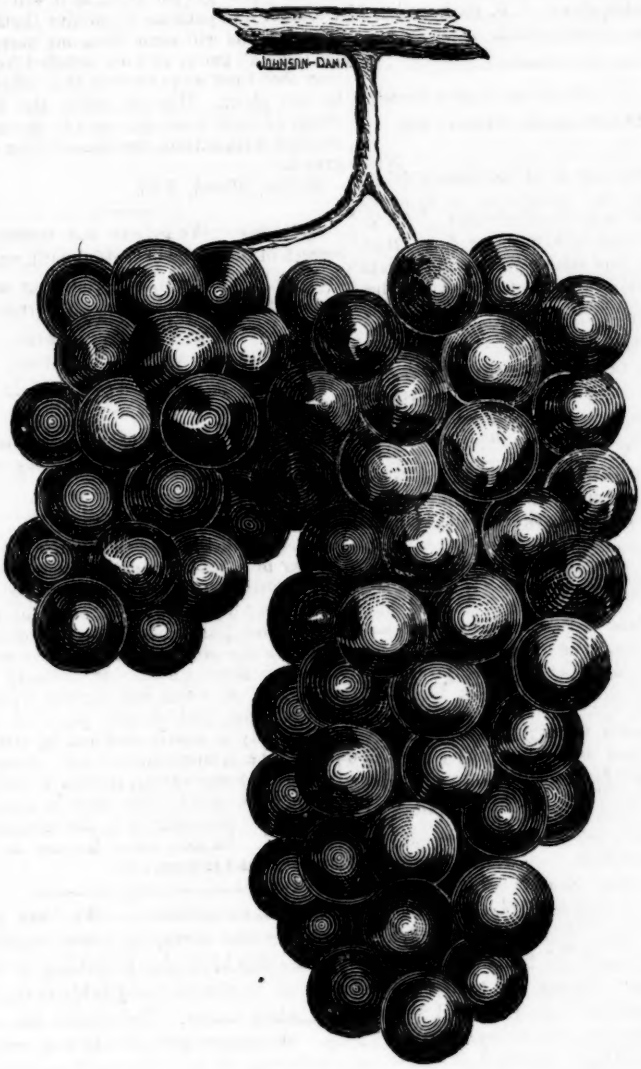
TO CORRESPONDENTS.—We have before us several articles containing many excellent ideas which we should be glad to publish, if they were not woven in with so many subjects that are not of a kindred nature. The articles are also very long. We cannot publish one long article without excluding those of two or three other correspondents, who become disappointed and dissatisfied by not having a timely hearing. While we feel indebted to correspondents for their favors, we beg to remind them that when they discuss a matter, it should be upon one single topic, and not mingle two or three or more together—and that no article should exceed a column and a half.

THE DELAWARE GRAPE.

This delicious grape was introduced to the public by Mr. THOMSON, of Delaware, Ohio. Its great excellence at once attracted attention. Indeed, so highly was it esteemed, that many supposed it to be a foreign vine, identical with the Rose Chasselas, and thousands of vines of that variety were sold for the Delaware.

It is difficult to understand how any one, familiar with the Frost and Clinton grape should have failed for one moment to recognize its origin.

Some of our western horticulturists, if not in theory, at least in practice, appear to have understood its relation to the Clinton, for I have growing upon my grounds four vines obtained from Cincinnati, bought as Delawares, and for which I



had the pleasure of paying twenty-one dollars. They turned out to be Clintons, and could have been obtained of Hovey & Co., for about one dollar each. Mr. Cabot, Mr. Walker, and several others, were treated to the same happy result.

Our Cincinnati friends have at last found out their mistake, and are planting their vineyards entirely with Delawares. Mr. John E. Motier is planting them by the thousands, "and is determined to plant no other vine." Mr. Frederick Schnicke, thinks it not only the best American grape, but the best in the world.

From these and very many other testimonials, it would appear that the Delaware is likely to have full justice done to it.

The Delaware is at first a slow grower, but when

once established is all that could be desired. It is perfectly hardy, and ripening its fruit full three weeks before the Isabella. The limbs and berries are medium size, and of a rich vine color.

It is difficult to describe the flavor of this grape. To say that it is juicy, winey, sugary, spicey, with a fine delicate aroma, is to use words that convey very little meaning except to those who are familiar with the fruit.

The above description is furnished us by Mr. E. A. BRACKETT, of Winchester, a gentleman of large experience in grape culture, and who is perhaps as well qualified to judge of grapes as any person among us.

LECTURES ON HORSE TAMING.

During the month of March the citizens of Boston were favored with a series of lectures on horse-taming, by the celebrated JOHN S. RAREY. The audiences were large, and the greatest interest was manifested in the subject.

The lectures were given at Music Hall, and an enclosure about twenty feet square, surrounded by posts firmly fastened and strengthened by ropes and iron rods, was erected upon the stage, for the safe display and subjugation of the vicious animals that were to be submitted to Mr. Rarey's treatment. The number of lectures, originally fixed at three, was afterwards increased to five, and a free lecture was also given to the truckmen, drivers, and others employed in the care of horses.

Mr. Rarey opened his lectures with a description of his subjugation of Cruiser, who accompanies him. This renowned horse is a thoroughbred English race horse, and at the age of two years he had reached the greatest speed known. His viciousness now began to manifest itself, and up to the time of Mr. Rarey's visit to England his owner had been unable to do anything with him, and it was absolutely dangerous to approach him. He was kept in a brick stable, and wore a heavy halter and iron muzzle which had been put upon him by stratagem. His spirit was well tested in his struggle against Rarey, after the straps had been applied. Most of the horses which are brought forward for treatment will yield in a few minutes—Cruiser resisted for three hours. He is now in a state of complete subjection, and as tractable as could be desired.

After the exhibition of Cruiser, Mr. Rarey introduces one of the subjects for the evening's illustrations, generally tractable, but brought forward on account of some particular vice which it is wished to correct. As a fair example, and a correct description of his manner of proceeding, we copy from the *Advertiser's* report of the first lecture:

The first horse introduced after Cruiser was one owned by a Mr. Savage, of this city. His principal fault was great fright at an umbrella, and this was amply demonstrated by trying the experiment of opening and shutting an umbrella before him. Mr. Rarey then began his process of bringing the animal into subjection, giving the needed explanations from time to time. He said he had studied the horse's nature fully, and that he used no magic power, but taught the horse as he would a child. It is not the proper way to run before a horse and try to catch him quickly. Touch the horse lightly, said he. A lady can tame a wild horse in less time than a man can, simply because she is more gentle. The horse has a delicate and sensitive nature, and you should approach his head as the seat of this sensitiveness as gently as possible. The system of "rough breaking,"—appropriately named,—is as bad in its application to the horse as it would be to children; and more so, because the latter can understand you. He said that he had never seen a naturally vicious colt; viciousness resulted from their training. The horse is nowhere so well understood as in Arabia. There he is brought up in the tent as a child and with the family, has received no rough usage, and knows nothing else but duty. The first difficulty in this country is the use of the halter. A heavy rope is generally used, whereas the proper one would be as easy and light as possible. The intelligence of the horse should be appealed to, and the very look and gesture should be easy and pleasant, as the animal has a great discrimination in these matters. He then exhibited two small straps which he said were the only contrivances he had ever used. He approached the horse slowly, patting him gently, and taking his left fore foot in his hand, and placing one end of a strap about the ankle and the other above the knee, bent the leg and strapped it firmly in that position. He then led the horse about on three legs, remarking that any horse, however vicious, in this situation could not kick or run away. With the same gentleness that marked all his movements, he placed a surcingle about his body, and fastening the other strap about the ankle of the right forefoot, drew it quickly as the horse started, and he, thus being deprived of the use of his fore legs, came down upon his knees, subject to the will of his master. Mr. Rarey then pressed gently upon his side and drawing his head towards him, finally succeeded in compelling him to lie down. Some time was occupied in caressing him, showing him the umbrella, rubbing him with it, opening and shutting it before his face, until he became perfectly familiar with it. The straps were then loosened one by one, and when the horse regained his feet, Mr. Rarey mounted him, opened and closed the umbrella over his head, and beat a drum resting upon his neck, after having acquainted him with it in the same gradual manner. He then retired amid the applause of the audience.

By this simple method the horse is taught that he can be brought to subjection, and in the process, kindness and gentleness avail more than the force which is customarily used on vicious horses. The wildest horses, said Mr. Rarey, can, simply by rendering them helpless and unable to do any mischief, be made accustomed to sights and sounds hitherto terrifying, and thus be made perfectly tractable. But the process is one of time and the work necessarily gradual, for "haste makes waste." He teaches the horse to wait his movements and not be self-willed. Moreover, he is to be tamed *all over;* his entire body must become accustomed to objects. But the head is the seat of knowledge, and the horse is to be taught through that, and what we wish to teach him is not to be beaten through his back.

THE HYACINTH.—Like the Rose, the Hyacinth is a universal favorite, and although great diversity of taste exists in floral matters, the merits of the Hyacinth are never questioned. It is loved by every one for its beauty and its fragrance. It will thrive in almost any soil; and will flower almost as finely when grown in water as when planted in the richest compost.

For the New England Farmer.

MICROSCOPIC RESEARCH.

EXTRACTS FROM DR. HARRIS ON "INSECTS AFFECTING FRUIT TREES."

SWOLLEN BRANCHES OF THE APPLE TREE.

"On the 31st of May, the Hon. M. P. Wilder sent me some pieces of the limbs of the apple tree, which were singularly enlarged in diameter to the extent of several inches. The specimens were carefully examined by Prof. Asa Gray and myself, without insects, their punctures, or their tracks being found therein."

WARTS OR EXCRESCENCES ON PLUM TREES.

"These have been attributed by many persons to the puncture, or to the presence of insects therein. I have not been able to find one or the other in the incipient warts, or in their immediate vicinity."

PLUM TREE INSECTS.

"*The Plum Weevil Curculio* continues to baffle all attempts to exterminate it. The succulent warts of the plum tree provide for it abundant resources in default of plums, its more appropriate food. We may save our crop of plums by covering the tree with fine netting."

We find in these extracts the frank "opinion" of Dr. Thaddeus William Harris, who has given to the world the best and ablest "Treatise" on Entomology ever written by an American author. These extracts were from his pen subsequent to May, 1854, two years after his "Treatise" was published, and shortly before his decease. We have reason, therefore, to believe they contain the full extent of his knowledge of the contents of these "warts." His "opinion" is clearly expressed that he "could not find punctures or insects in them, or in their immediate vicinity," and he believes they "constitute food for the curculio." Now that the tomb has closed over his remains, must the twin sciences of Entomology, Embryology, Botany and Microscopy cease in their progress? Although he labored assiduously, and is justly commended for doing his work well, he did not exhaust the wide fields of yet unexplored scientific research and development. I do not intend by these remarks to detract from the just fame he has acquired, nor as doubting his "opinions" expressed and qualified, so far as *he has made researches and developments*. But I beg others, who quote him as "authority," to remember that all such reference must, in all coming time be considered as the "authority" of "his day and generation." Others who come after him may continue to tread in his path, and yet find beyond the limits of his journey, unexhausted fields for their researches. Near the end of his journey of "research" he assures us that he "cannot find perforations or insects in these incipient warts."

"*Microscopic research*" does develop insects in these "warts." They are there. And the question is, what species are they? and when does their existence commence? From the investigations which I have thus far briefly made, it appears conclusive in my judgment, that the eggs are deposited in the summer, and they, or their embryo, or the larva, remain in the "warts" until the following spring or summer. My first microscopic examination, by the dissection of these "warts," was made in August last. Early in the summer my trees were full of fruit, but at this time, nearly all had dropped from the trees, or had become mouldy and withered on the trees. Not one quart of sound plums were gathered, where there should have been many bushels. The "warts" vary in size from a small to a large sized pin's head. Nothing can be seen in the interior of these "warts" with the natural vision. The microscope only can reveal the interior objects. Curiosity induced me to attempt to count the huddled living mass thus visible. According to the size of each "wart" examined with the microscope, I found the number of insects to vary from 100 to 300 in each "wart." This unlooked for, and wonderful development, induced me to examine various works at command, to obtain some published description of these "warts" or their contents. I was unable to find any particular statement on the subject except what I have here quoted. From August to the middle of November, I continued weekly to watch, expecting further development, but up to the latter period they continued in their secluded position, and if any change was visible, it was only a very slight increase in size. Since the middle of November, they have only exhibited the torpid appearance of all insects during their winter or hibernating condition. To test the fact of their retaining vitality during the several cold spells this winter, I have repeated my examinations. January 2, '61, while the ground was covered with snow, and the thermometer 16° below freezing point, I made a minute microscopic examination, and at the time made the following record:—

[I see no change in these larva insects during the two months since our cold weather first commenced. At first view as now seen, they are torpid and motionless in the cavity or centre of the "wart," and appear like a cluster of minute eggs. At this time I renewed previous experiments, such as applying warmth to incite animation. They were exposed in a warm room, and from its heat and the sun's influence combined, they became animated in half an hour. This reveals conclusive evidence, that, in this larva state, they are thus hibernated. The genial warmth of spring will, judging from the above experimental tests, bring them from their hibernation; and their future development or chrysalis changes will open a new door for further entomological or other scientific investigations by which their genus may be determined and described.]

This development I have made by my own assiduous "microscopic research." I have good reason to believe, from what Dr. Harris says of those "warts," that it is a new embryological discovery, yet undescribed by any entomologist or microscopist in America.

Certainly Dr. Harris, from his extensive knowledge, would doubtless have given extracts, if others had described these insects, and no one would hardly think of searching beyond his writings for the priority of such an embryological record. I have, however, perused several works of foreign and American publication, none of which have given particular records of these "warts." These "warts" are clustered round the base of that part of the limb forming each year's new wood, and vary from 10 to 15, making 1500 to 2000 insects, subsisting suctorially upon this portion of the

limbs. Can you, Mr. Editor, or any of your correspondents, furnish extracts or name any publication, and the page which gives any description of these "warts" and insects found in them? I shall watch their further development.

Baltimore, Jan. 25, 1861. LYMAN REED.

EXTRACTS AND REPLIES.

SWEET CLOVER.

Noticing your remarks about the Italian or crimson clover, I send you some seed of what I have called sweet clover, on account of the sweet smell it has; I would like to know if it is the same you speak of? I have a few pounds of the seed. In the time of blossoms I notice it is very attractive to honey bees; it blossoms the second year. In growing it resembles what you speak of. AMOS DOANE.

Royalston, Jan. 21, 1861.

REMARKS.—Thanks for the seed sent. As we have no other seed but yours by us, we cannot tell whether they are the same or not.

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NORFOLK TRANSACTIONS.

By the kindness of the corresponding secretary, I have been favored with this handsomely printed pamphlet of 140 pages. The first twenty pages contain an address by an eminent scholar, who cultivates a farm of *one square rod* in the city of Boston, which affords illustrations of draining the pockets of those who visit it. The next paper is a report by the President and Secretary, brief and pithy—valuable only for its appendages. The next is twenty pages of report by a supervisory committee containing very sensible remarks by an experienced man, and affording much instruction. Then follow several reports and statements, not unlike what we have heretofore seen in publications annual for forty years. Then eight pages on the hog, from which much fat can be extracted. Then several other commonplace reports and a song, which shows that even ministers sometimes have music in their souls. Then twenty pages of names of officers and other great men of the society, and a list of premiums offered for another year.

On the whole, the pamphlet is a creditable specimen of the manner in which the State's bounty is expended for the instruction of farmers.

March 9, 1861. P.

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DOGS AT LARGE.

I agree with your Orfordville correspondent in all his suggestions except one, viz., "his incapacty for writing a newspaper article." I think he is capable of writing, and his article shows it. His remarks are clear, to the point, and short; such should writers for an agricultural paper ever be.

He speaks of dogs and their owners in the country as a nuisance; they are such in the city, and instead of a tax of $2, their owners should be taxed at least $50—unless the dog could be restricted to the owner's own enclosure.

I know of no reason why a man should be allowed to keep a dog, or a family of children, to the injury or annoyance of his neighbor, yet how often is this the case. His children are kept from the village or city schools, and suffered to run at large with his dog or dogs, to the disturbance of industrious and useful citizens. DELTA.

Boston, March, 1861.

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LABOR-SAVING FIXING FOR HOUSEKEEPERS.

Knowing that you go in for all really substantial improvements in house-fixing, I send you the following.

Looking into a lady's pantry, the other day, I saw what I supposed to be a common writing-desk on the floor, in one corner, quite out of the way. On opening it, I found it had a wire bottom; that the floor under it was taken up, and that it stood over the cellar. It was used in cold weather for keeping all such small things as are wanted at every meal, and that you wish to keep from freezing. In the summer it was used for holding such things as it is wished to keep cool. It was, in fact, a little cellar up stairs, and saved the good woman having to run up and down stairs a thousand times a year.

This little convenience may be common, but as I had never seen one before, I thought it would do no hurt to let folks as ignorant as I was have the benefit. X.

REMARKS.—Certainly not—no one person yet knows what conveniences all the rest of the world has. We shall be glad to hear from you on any topic you think will be valuable to the readers of the *Farmer*.

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TILE FOR AN AQUEDUCT.

In the *Farmer* of Feb. 16 is a description of Rowe's Patent Drain Tile, which I think might be substituted for pump logs if they were laid in cement. Will you give me your opinion on the subject? I want to lay logs, or something, to my barn, but the water would have to come up hill. Will you tell me what you think about it, whether I can get it or not? WILLIAM S. THORP.

Underhill, Vt., 1861.

REMARKS.—We have no doubt but the tile, well laid in hydraulic cement, would answer well, and be the cheapest article known to us, in the long run. If the water is desired at the barn, and that stands considerably lower than the source of supply, there will be no difficulty in passing it over higher ground between the source and the outlet. Care must be taken to get the tile below the frost, so that neither cement or the outside of the tile should freeze.

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PROFITABLE HENS.

Your correspondent of Feb. 15, in the *Farmer* of March 2, says he has 37 hens of the Chittagong and Dorking breed that have laid him, from the 15th of November, 1860, to the 15th of February, 1861, 1542 eggs. I have 10 hens of the Spanish and common breed that laid me from December 1, 1860, to January 1, 1861, 216 eggs, and from January 1 to March 1, 295 eggs, making in all, from December 1 to March 1, 511 eggs from 10 hens, which I consider rather better than your correspondent's statement of February 15.

North Raynham, 1861. OTIS HOMES.

REARING CALVES ON HAY TEA.

I wish to inquire if you or your subscribers can give information respecting the rearing of calves on hay tea? If so, any information will be thankfully received. A SUBSCRIBER.

Shaker Village, N. H., 1861.

REMARKS.—We have reared calves for several years upon hay tea. Take the calf away at one day old. Milk into a pail, put the hand into the milk and one finger up into the calf's mouth, and he will soon suck up a quart or two. After doing this two or three times, add a little hay tea, increasing the quantity of tea and lessening that of milk. If you skim milk that is sweet, add that to the tea. Make the tea by steeping a little *perfectly sweet English hay* as often as you wish to feed the calf, and give it to him as warm as milk is when taken from the cow.

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SHEEP, DOGS AND POVERTY.

I noticed in your last week's paper a few lines concerning "Sheep, Dogs and Poverty." I cannot say a great deal about sheep, because I do not keep them and they are not raised to any great extent in Massachusetts. But I can say something in regard to dogs, because I have got one that I would not part with any more than I would with my left eye. The writer alluded to states that "when a man is poor he gets him a dog, and when very poor, two!" I don't think that is the case in Massachusetts. The dog law is a good thing, because there were once a great many curs that were a nuisance. He says that dogs and their owners are nuisances. Then I suppose I am one, because I am a dog-holder. According to his theory there are a great many nuisances in this world; I don't think we shall kill our dogs because he thinks so. H. P. K.

Lunenburg, Mass., 1861.

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FENCE POSTS.

About the first of June, in 1840, I made two pairs of hemlock bar-posts. The sticks of which they were made were about ten or twelve inches in diameter at the largest end, sided down to four or five inches, to the top of the ground, being round below, cut at the time, and of course the bark stript off. One pair was set in quite moist ground, and is now standing, though I think, nearly used up; the other pair was set in dry, loamy ground, and broke off in the fall, from a high wind, the fifteenth year after they were both set. The same sticks cut in the winter would not have lasted more than half as long. C. W.

Johnson, Vt., 1861.

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EXPERIMENTS IN TOP-DRESSING.

I have read with much interest the communication of Mr. Rogers in your paper of Feb. 9, on the above subject. I know that any experiment which he undertakes will be carefully performed, and that the results may be relied upon. I am not surprised at those results for the past year; they are what, from my own observation and experience, I should have expected. The results for the next two or three years will, however, test the comparative value of these manures as a top-dressing for grass lands; and I shall be much surprised if they do not show the green cow manure to be much the greatest, so as to put it far beyond question. R. I. I.

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DEATH OF MR. PINNEO.

I regret to say to you that Mr. JOSEPH PINNEO, of Hanover, died last Tuesday. The funeral was attended on Thursday. He was, for the last twenty or twenty-five years, extensively engaged in the nursery business, and it was through his energy and zeal that nearly all the improvements in fruit and orcharding in this section have been made. He was the pioneer, and the fruit of his labor extends over a large extent of country, and is a blessing to the world. It is hard to part with such men as DOWNING, COLE, FRENCH and PINNEO. I am in hopes some one will send you a tribute to his memory worthy a place in the *Farmer*.

Hanover, N. H., 1861.

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WORMS IN HORSES.

I see inquiries in the *Farmer* as to what will kill worms in horses. You remarked that wood ashes is good. When ashes does not effect a cure, take bass wood bark and boil it in water down to a strong liquid, then take whatever grain is given to the horse and soak it in it over night. Give it to him in the morning on an empty stomach; follow giving it three or four mornings, then give something physicking and in a short time a cure will be effected.

Conway, N. H., 1861. E. WALKER.

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A BIG CALF.

I sometime since gave you a short description of my Durham bull calf, and promised to let you hear from me in relation to him. I did not weigh him at one year old, as I had intended, being unwell at the time, and long after it was very icy in our street. At 13½ months old he weighed 925 lbs., measured 6 ft. in girth, and 11½ feet from tip of nose to tip of tail.

Stockbridge, 1861. S. BYINGTON.

THE DELAWARE GRAPE.

Would the Delaware Grape, spoken of by Mrs. Porter in the *Farmer* for February, page 85, be hardy in this latitude, 43°? And if so, where can it be obtained? S. GUILD.

Milford, N. H., 1861.

REMARKS.—With special care, perhaps you might succeed with it—but we think it would be quite uncertain. Any of the seedsmen at the agricultural stores would furnish it.

A DISTINGUISHED physician lately announced that one reason why so many people have the dyspepsia is because they have no sympathy at table. They eat alone at restaurants, and devour their food like wild beasts, instead of sitting at the table with their families, where their sympathies would be called into healthful activity, and where they would eat like civilized beings. There may be something in this idea. At any rate, it would do no harm to test it.

For the New England Farmer.

THE WHEAT CROP.

Mr. Editor:—I would like to see more wheat grown in New England, knowing it can be done with profit, it being much better to seed down with than oats, even if it grows only straw. The land I have worked is a gravelly and sandy loam, the soil from six to twelve inches deep, with gravelly bottom. Crops had been taken off until the moss had so covered the green sward that all it would yield was about half a ton of wire grass to the acre. I begin by turning the sod under nine inches, in the fall; in the spring I harrow in five cords of manure, made up of muck, oak leaves, hog and stable manure, and plant potatoes, with a hand full of ashes and plaster in the hill.

The next spring I plow the same as before, the average depth of the soil, and plant corn, manuring in the hill, and no more. The next spring I spread broadcast two to three cords of coarse stable manure, plow under the same, and sow spring wheat, two bushels to the acre. My average crop has been twenty-seven bushels to the acre. I do not speak of this as a large crop, but what may be done on almost any farm in New England, considering the quality of land and quantity of manure applied.

Spring wheat should be sown as early in the spring as the ground will admit, but not so early as to need more than one good harrowing each way, as too much tramping packs much of it, causing it to start uneven. If ashes, unleached, are handy, they will be valuable spread on and harrowed in with the wheat, giving the plant a more vigorous start, and with a healthier, deeper color. This crop can be doubled by a liberal supply of ashes in this way.

Plaistow, N. H., March, 1861.

Remarks.—A sample of our correspondent's wheat came with his letter. It is very clear and handsome. We rejoice that the cultivation of wheat is finding favor all over New England.

For the New England Farmer.

RETROSPECTIVE NOTES.

Cobs and Cob Meal.—In the *N. E. Farmer* of Feb. 2d, and again in the monthly edition of the same for March, Mr. Silas Brown gives us some facts and opinions intended to throw light upon one of the several questions which have been agitated for some years past, in regard to the use of cob meal, along with corn meal, as a feeding stuff for stock. Of the several questions to which the practice of grinding corn and cobs together has given rise, Mr. B. confines himself to the one which inquires whether or no cobs have any nutritive value, and, if any, how much either absolutely or comparatively with other feeding stuffs. The two more important questions which have been raised and discussed in reference to this practice of grinding and feeding corn and cobs together, namely, that which relates to the safety of feeding an article which contains so many sharp, flinty scales or shells, and that which inquires whether it is economical, or more probably wasteful, to pay millers for grinding a substance of so little nutritive value. As to these two more important questions, Mr. B. is, at least on the present occasion, entirely silent. As however, all the three questions, which we have above named, are more or less connected, and as the current volume of this journal could scarcely confer upon its readers a more useful service than that of helping them to ascertain what is true, and what is not true in regard to either or all of these questions, I propose to continue the discussion commenced by Mr. Brown, hoping that some other of the members of the great New England Farmers' Club, which is composed of the several thousands of readers of this journal, wherever scattered abroad, will continue and keep up the discussion, until the questions named shall be settled as nearly as can be.

First, then, as to whether there is any nutriment in cobs, there is quite a diversity of opinion among feeders and farmers generally; some regarding them, as Mr. Brown says, as no better than sawdust, and others thinking that they contain considerable nutriment, enough even to make it a paying business to get them ground at the mills. That there should be such a diversity of opinion among practical men, while unassisted by the analyses of scientific men, or agricultural chemists, is not at all to be wondered at, for none of the attempts that ever we have read or heard of to determine whether cobs contained any nutriment, or how much, were made with exactness or accuracy enough to decide this question, and some of the observations which have been taken as proofs that cobs contain more or less nutriment, (such as the fact that cows and horses will eat them greedily, while soft, especially such as have been thrown out of a pig-pen,) are by no means proofs of sufficient validity or conclusiveness.

This uncertainty, and consequent room for diversity of opinion among practical men, has been removed to some extent by the scientific investigations of such chemists as Drs. Salisbury, Chas. T. Jackson, &c. By the help of the analyses they have made, the opinion seems now quite prevalent with competent judges, that cobs are capable of affording to some animals, ruminating ones especially, about as much nutritive matter as the same amount of good wheat straw. Mr. Brown has expressed this prevalent opinion quite correctly and pithily when he says, "On the whole, I have made up my mind that cob meal is very good for cattle, but worthless for hogs. Cobs, by the pound, are probably of equal value to butts and stalks, and when ground with the corn, are a substitute for chopped fodder for cattle and horses.

The second question about grinding cobs relates to the economy, or the wastefulness of paying millers for reducing to a coarse meal a substance containing no more nourishment than good straw or the butts and stalks of corn.—Here, again, opinions differ. Some, we have found, had never counted the cost, or had ever supposed that it cost any more to grind the cob along with the corn, than it did to grind the corn alone; and these men, of course, had never had a thought of the possibility of grinding cobs being a wasteful, uneconomical operation, or one which could not pay, save in a few rare cases when all kinds of cattle food were scarce and dear. There seems to be little difficulty in convincing those

concerned of the wastefulness of grinding cobs, when they are informed that at mills where one-tenth is usually charged for grinding corn, or about five cents per bushel, when corn is about a cent per pound, it is customary to charge eight cents for grinding two bushels of ears, equal to one bushel of shelled corn and the cobs belonging thereto; and that, as there are generally about twenty pounds of cobs in two bushels of ears, the usual charge of millers makes the grinding of these twenty pounds cost three cents, or at the rate of three dollars per ton. The conclusion to which one neighbor arrived, after taking these details as to the cost of grinding cobs into consideration, is quite likely to be that of a good many others: "Why," said he, "it is quite plain that it is wasteful to grind cobs, for it would cost much less to cut up straw or stalks very fine in a cutting box, and mix the corn meal with that, or to feed the corn meal in any other way, and leave the stock to pick up as many of the cobs as may suit their taste or instinctive cravings."

But the third question about this practice of grinding and feeding cob meal still remains, and is by far the most important of any of them, as it relates to the safety of feeding cob meal. A great many facts have occurred, some of which only have been put upon record in our agricultural journals, which prove very conclusively that the feeding of cob and corn meal have in a great many instances produced disease, and even death. On the other side of the question, nothing has been alleged, and indeed, nothing can be, except merely that this one and that one who have been in the habit of feeding corn and cob meal more or less extensively, has never seen any bad results from it in his sphere of observation. But as the endeavor to do what we have undertaken, namely, to enable those concerned to arrive at the truth in regard to this question, would involve us in details of some considerable length, we will leave these to some future time. Meanwhile, we would like to hear from some of our brother members of the club. MORE ANON.

For the New England Farmer.

DO MANURES WASTE BY EVAPORATION?

MR. EDITOR:—We frequently hear it enjoined upon the farmer to plow in manures as soon as spread, just as though the elements were combined to rob him. Now if we look at the operations of nature in her endeavors to repair her drooping energies, we shall find, that she is no such spendthrift.

Notice, if you please, the fertile prairies of the West, and tell, if you can, if their fertility is due to any other source than the rank growth of vegetation that year after year falls and rots upon the surface? The rich intervals of our own New England are all instances of surface manuring. How is forest land enriched, except by surface manuring? I would not be supposed to argue the placing of all manures on the surface—far from it. Manures on plowed land should be thoroughly mingled with the soil from the surface to the depth of four to six inches. But it is the general opinion in this vicinity that all manures should be covered with earth, consequently we see but little top-dressing of mowing land, a thing which should be practiced on every farm.

All gardeners recommend the use of well-rotted manure. If well rotted manure is good in the garden, it is good in the field, and in order to have rotten manure, we must have that which has been exposed to the atmosphere, and consequently to evaporation. The question is, does it lose any of its value in rotting? If we mix a pound of salt with a gallon of water, and evaporate the water, we have the pound of salt still. The process of making maple sugar is an instance of evaporation without loss.

Wells, Me., 1861. M. LITTLEFIELD.

REMARKS.—When you go into a room where there is a full blown rose, you smell its perfume, and the rose has *lost* just so much as you smell, and as much more as there is in the room. If the stem and leaves of the rose rest upon water, it will remain quite fresh several days, but its fragrance will all be gone. We understand that a similar operation takes place in exposed manures. The process of the decay of vegetable matter on prairies is hardly a parallel case, as the decay is in small quantities, at any one time, and the process very slow.

For the New England Farmer.

THE EASTERN PROLIFIC CORN.

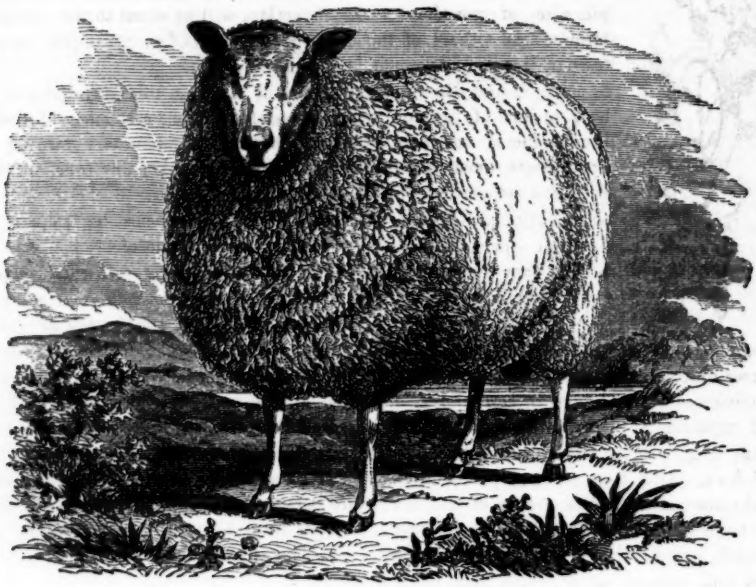
The seed of the "Eastern Prolific Corn," a name which I gave it, originated, I believe, in Maine, and was first known to me about two years since, although some farmers in this vicinity claim to have raised the same kind a number of years, and obtained much larger crops than I have been able to do, thus far. Last season I raised on Elm Farm, Berkley, Mass., a little more than eighty bushels of good sound corn per acre. My corn land is what would be termed plain, level, and of a light, sandy loam. I plowed thoroughly ten or twelve inches deep with "Birch's Patent Iron Beam Plow," used five loads of rich compost, and twelve bushels of ashes per acre—the ashes being used at weeding time. Planted in hills about three and a half feet apart each way, in May, 16th and 18th, putting two cords of manure in the hill. I allowed five stalks to each hill, perhaps four would have done better, cultivated both ways, and hoed about the middle and last of June, and subsequently a third time, without plowing. Cut and stacked the corn the first part of September, and allowed it to remain in the field some five weeks. The value of the crop per acre was:

Corn		$82,58
Corn fodder and improvement of land	30,00	$112,58

The expense of cultivation was for

5 cords of manure on land	$40,00	
12 bushels ashes	2.00	
Plowing, planting and hoeing	14.00	
Harvesting	7,00	
Interest on land, taxes and seed, about	7,00	$70,00
Net profit per acre		$42,58

Taunton, 1861. D. S. DICKERMAN.



PURE COTSWOLD BUCK---"DR. KANE."

Last December, when the above portrait was taken, "Dr. Kane" was one year and nine months old, and weighed two hundred and fifteen pounds; his fleece, sheared the twelfth of May, weighed eleven pounds; he is pure white, with small, delicately formed, head and legs, yet strong and active. Fine looking, docile, and spirited, he attracted much attention at the Essex agricultural society's show, held in South Danvers, last September—the only time he has ever been publicly exhibited—and won the premium offered by the society for the best buck. Among the competitors for the premium, was a very fine one, recently imported, that received a prize in England, where he had to contend with the best bucks in the Kingdom. "Dr. Kane" was bred by George C. Hitchcock, of Ash Grove, New Preston, Ct., and is the property of Charles Corliss, Poplar Lawn, Haverhill, Mass.

CURIOUS PEBBLES.—The San Francisco *Alta California* states that on the ocean beach of Oregon, between Port Orford and Goose Bay, the surf is continually casting up little rows of variegated stones, prettily rounded by the action of the sand and water, and exhibiting all the hues of gems. They average the size of common beans, and are generally transparent, scintillating in the sunlight with the colors of the ruby, the sapphire, the amethyst and the emerald. Sometimes a perfectly round one is found, of an amber color, and clear as glass. After a heavy gale they may be gathered by the bushel. They are only to be found along a stretch of coast about twenty miles in length. In a glass dish filled with water, and placed where the sun can strike obliquely upon them, they reflect a variety of beautiful rays, and create a miniature rainbow, or a combination of light resembling one, in their effects.

EFFECTS OF DEW ON ROT AND MILDEW IN THE GRAPE.—Mr. W. Elder dissents from our views as attached to Mr. Mullet's article. As we have not space for a full discussion of the subject, we give an abstract of Mr. Elder's remarks:

He believes dry air to be the essence of success in grape-growing. Eight by eight feet apart, he thinks best for grapes, so that they may get the benefit of dry air and sunshine. As mildew follows heavy rains after droughts, it shows, he thinks, that it is the damp weather that breeds it. He thinks further, that an over dry atmosphere only injures when some such process as the action of fire occurs about them. He does not believe that the well-known health and exemption from disease of grape vines in trees, arises from partial shade, but, "from there being seldom dews and fogs up there." In short, Mr. Elder has invariably noticed that "mildew and rot always follows a few days of wetness and cloudiness."

We agree with Mr. Elder in regard to the accuracy of the facts he presents; but need not repeat that we draw different conclusions from them.

TALKS WITH THE FARMERS.

N Wednesday evening, March 13th, we had the pleasure of meeting the farmers and others of the town of Harvard in council, to consider and discuss the best means of promoting their general interests.—Some years since they had an active association which was continued for a considerable period, during which they had several town exhibitions which were highly creditable to their energy and skill. It is supposed that the influences of this association did much towards introducing some new modes of husbandry, improved implements, better barns and stock, and led many to give more attention to the cultivation of fruit. This item of farm products is of especial consequence to the people of this town, as they have a soil admirably fitted to the apple, pear, peach, grape, blackberry, raspberry, thimbleberry and currant, all of which may be prepared just at night and delivered in Boston market before ten o'clock the next morning; or, by an afternoon train, delivered at night, so that they may be offered for sale as early as sunrise the following morning.

The surface of a considerable portion of the town is hilly, and the soil of granite formation, strong and retentive of manures. These hills are not readily affected by drought, as they store up a vast amount of solar heat in bright days, keeping the soil warm while it is moist, and making them very productive of most New England crops when they are well tended. Thus they are admirably adapted to fruit culture, and furnish some of the best lands in the Commonwealth for the cultivation of the peach. Recently the crop of this delicious fruit has failed all about this region, and in a great measure, also, in the State of New Jersey, and even farther South. We have been informed that one or two persons in this town have each sold from a small portion of land, three to five hundred dollars worth of peaches in a single year! Within two years, however, "the Yellows" has made sad work with the trees, and the crop has been greatly diminished.

The discussion, during most of the evening, was upon the advantages, to the farmer and his family, to be derived from a *systematic association*, for the purpose of *considering, investigating and discussing the varied departments of the business in which they are engaged.* A strong interest was manifested to associate, gather strength, and explore the wide field of labor before them. We trust that the nucleus for this is formed, and that the lessened labor, increased profits and domestic comforts, which cannot fail to spring from such action, will be equal to the social advancement growing out of such an interchange of practices and opinions.

The hill lands in this town, and of which we have already spoken, are, most of them, stony, being covered with boulders varying in weight from fifty pounds to many tons, so that it is a matter of consequence to the farmer to know what disposition it is best to make of them. It was quite natural, therefore, that, in the course of the discussion, the following question was asked, viz.: *"Is it best to remove stones away from the land upon which they are found, or to bury them so far below the surface as to be out of the way of the plow?"* The principal speaker replied, that no doubts upon this matter embarrassed his mind—it was best to sink them, and for the following reasons:

1. In removing large quantities of stones that are partly imbedded in the soil, the whole surface is sunk in proportion to the quantity removed.

2. This leaves the surface lower, more compact and in a sort of inert or lifeless condition, in which cultivated plants will not flourish.

3. That in removing the stones, a considerable amount of fertilizing matter which they contain is removed with them, such as potash, lime, &c., which is gradually dissolved by atmospheric and other agencies, and is indispensable to the healthy growth of plants.

4. That stones placed at a moderate distance below the surface, become depositories of heat which they give out as the surface is cooled, and they attract the roots of plants by that warmth as well as by the agents of growth which they contain.

5. That they attract moisture. In digging up young trees where stones are found beneath the surface, it is quite common to find these stones surrounded by a net work of fibrous roots, all seeming to embrace them with the certainty of finding food, moisture and warmth. Trees in such localities are usually thrifty and productive.

6. It is cheaper to sink them on the spot than to remove them away from the field.

7. Wherever stones are sunk, the soil and subsoil are thoroughly *trenched*, in performing the work of sinking, an operation of great value to the land, and one which will add materially to its productive power for many years.

Where the boulders are quite large, a good process is to throw the earth out entirely around them to a depth sufficient to receive the whole, then blast, when the pieces will fall over into the hole prepared for them, and are ready to be covered up. If the substratum is very stony, the

process is more expensive, and in some cases would prevent the operation of sinking.

When stones are removed from the field, one of two things must be done—earth hauled in to fill the holes, or they must be filled by plowing in the surrounding soil. When the latter practice is resorted to, the whole surface is lowered, and the field is apt to be left in an uneven condition. If the former course is adopted, carting in so much earth to fill the holes would probably be alone as expensive as the entire cost of sinking and covering them.

A few evening since, we met a large collection of the people at Stirling, when the time, from a little past seven until ten o'clock, was occupied in a review of the topics which had been under discussion by the Farmers' Club during several of their former meetings. An unusual number of young men were present, and a deep interest was manifested to progress in the noble art in which they are engaged. The farmers here sustain a *Town Exhibition*, which we have been told by those who witnessed it last fall, exceeded the county show in nearly all its departments. This spirit will soon give a new face to the country, as well as to the domestic condition and intelligence of the family.

LEGISLATIVE AGRICULTURAL SOCIETY.

[REPORTED FOR THE N. E. FARMER, BY THOMAS BRADLEY.]

The tenth meeting of the Legislative Agricultural Society was held in the Representatives' Hall, on Monday evening. The attendance was good, and there was considerable interest manifested in the discussion, the subject being "*Fruits and Fruit Culture.*"

Col. MARSHALL P. WILDER presided, and announcing the subject for discussion, said that he had so often spoken in the Representatives' Hall and other places on the same subject as was proposed, that he had very little of what would be considered new to offer. His health was not so good as usual, and he must, therefore, be excused from saying much. He stated that in the selection of fruit trees in our climate particular attention should be paid to those varieties that were hardy, and would withstand the changes and extremes to which we were liable in our latitude. In the Middle the States climate was not so variable, and there some varieties might be cultivated to advantage that we cannot expect to do well with. A great number of foreign varieties have been imported from abroad, but in consequence of this variableness in our climate the greater portion of them have failed, and to show how many are unsuited to our climate, Mr. Wilder said that within thirty years, of over 800 varieties he had tested, it would be hard to select 100 that were desirable for us. This, said he, is not alone peculiar to our own region, as with all the wisdom of the National Association, comprised of men from all parts of the country, of the thirty-six varieties of apples recommended for general cultivation, all but five are native, while of the fourteen varieties of plums, all but four are native, and all the varieties of strawberries are of native origin.

The speaker gave it as his firm conviction that for our greatest pomological success we must look to native seedlings raised on our own soil and specially adapted to it. He then spoke of the efforts made to disseminate the knowledge of the various kinds of good fruit, and particularly of those of the National Society and our own State Board of Agriculture, both of which were preparing catalogues containing the best varieties, with the soil and location each requires, and these he considered would be of great value to all. He then mentioned several varieties of native apples and pears of superior quality and flavor, greatly excelling the foreign kinds, and spoke of the efforts in cultivating the native varieties made by Mr. Dana, of Roxbury, who had raised six or eight varieties of pears, and had raised one variety nearly equal to the Seckel. Mr. Richardson, of Dorchester, had also been particularly active in this direction, as had also Mr. Clapp, of the same town, the latter having raised twenty-five varieties of seedling pears, all very good, some excellent, and one, the Bartlett, which rivalled, and he thought excelled the old pear in beauty and quality.

He had spoken so often and said so much of the importance of thorough draining to the successful pursuit of fruit-raising that he thought he ought not to allude to it now, but as he considered this, and the complete preparation of the soil, the two points on which success almost entirely depended, it would be well to dwell a moment on them. The land for the orchard should always be well worked and thoroughly drained before a tree is planted, and as this was an infallible rule, no new orchard should be commenced without it was done. He knew the difficulty of convincing an inexperienced farmer that a side hill needed draining, but this was the coldest soil we had. The surface water, said the speaker, is not what makes the land cold, as this will evaporate or can be easily conducted off, but it is the cold water, from the springs originating on the hills, that permeates the soil and keeps it cold and wet, thus checking the growth of trees and preventing the ripening of fruit, and to this he attributed the spotting of the leaves, the cracking of the fruit and bark, and the difficulty in properly ripening the fruit.

The influence of the soil, he thought, should be particularly considered by all who purpose

raising fruit, as many varieties will succeed in any good soil, while others require a light, feathery soil, and will thrive in no other. He condemned the practice of buying trees at auction merely because they had favorite names, and he did not wonder that persons who planted such trees were unfortunate with them. Every man wishing to raise good fruit should select with care, and paying attention to his land, he would find that the influence of the soil would much affect the flavor and beauty of the fruit.

Again, said Col. Wilder, more attention should be paid to the location and aspect of fruit trees, and he thought that on this point many made mistakes in planting the early varieties on the warm and genial soils, whereas the late varieties should have those spots, so as to ripen before the cold nights came on, and the early kinds would ripen just as well from the general heat of the atmosphere, without direct exposure to the sun.

Col. Wilder said, in closing, that our greatest success must depend on fruit cultivated from seed suited to our own soil, and he would encourage this as much as he could, so as to have our fruits, like our people, suited to the position they occupy. There was no higher ambition a man should aspire to, as he thought the man who raised good fruit was a benefactor to his race.

Asa G. Sheldon, of Wilmington, said that he had not much experience in fruit-raising generally, but had devoted his attention to raising apples. On the first day of April, 1841, he set out his fruit trees, 158 in number, and his neighbors tried to discourage him from doing so, telling him that he could never succeed on such soil, but he had paid little attention to this, and had continued to set more or less out each year until within the past two years; he had now 1200 trees, and had sold land on which were some 300 more. He said there was so much sand under the soil of his town that it drained the land without tiles. He raised Baldwins, principally, as he thought they paid as well as any other variety, yielding well and selling well, even when apples were plentiful. While he would not recommend a person commencing a large orchard to plant all Baldwins, he would have him get a good proportion of that excellent apple.

He said that 10 of his best trees, which are 20 years old, yielded last year 80 barrels of excellent apples. In the matter of trimming trees he would have a person try a tree each month in the year, and then he would learn from experience the best time to prune. He had found that the best time was from August 15th to September 15th. If, said he, you cut a large limb in July the sap is active, and runs down the tree, and staining the bark, is very apt to kill the tree. If a man had neglected to trim his trees last fall, he would recommend him to do it to-morrow, but he never cut a tree after the blows were off, as it would invariably injure it. He had had very little experience in pear culture, but he thought it would pay well.

Mr. Sparhawk, of Brighton, said that a common fault among cultivators was in cutting off the tap root in transplanting young fruit trees; this root, said he, removes the excrementitious matter, and on being cut off, checks the growth of the tree, and this is plainly seen in the grafts on wild trees, which are found to grow much larger than on trees transplanted from the nursery. He spoke of trees in Brighton 30 feet high which yielded 15 or 16 barrels of apples each per year.

In relation to pruning trees, he said that when a man raised his own trees he need not use a saw for five years, and then he considered that if properly attended to he could control their growth with the simple use of the jackknife, and this was specially the case with pear trees. Apple trees require some pruning, particularly when from 15 to 18 years old. He said he would never prune a tree in the spring, nor in June or July, as then the sap was too lively; any time after this he thought was safe, but in no case would he ever cut off a limb over an inch in diameter without protecting it, no matter at what time of the year. He spoke of mice gnawing the bark of fruit trees, and said that he remedied this injury by applying the same composition he would to the cut limbs, namely rosin dissolved in oil; and to neutralize the oil he stirred in whiting and lampblack. This, he said, excluded the air, and enabled the bark to grow underneath, while from the soft nature of the composition the sap would not be checked in its passage from the roots to the tree. Shellac would not do this, and he thought his composition was excellent.

Speaking of the profits of pear raising, Mr. Sparhawk said that his father had two trees on his estate in Brighton, which had been set out 20 years, and he had been in the habit for some years of selling the pears on the trees to a Mr. Gordon, one being a Bartlett and the other a Seckel, and he had received $40 each for their product last year, and about the same amount for previous years, the product of each tree being about the same in quantity.

Col. Stone, of Dedham, said that reference had been made to the orchard of Mr. Clapp, in Dorchester, by the Chairman, and he had procured a statement of Mr. Clapp's receipts last year from him, which he would read to the meeting. Mr. Clapp's orchard embraces 12 acres, but an acre and a half of this was planted with young trees just coming into bearing. He sold last year 875 bushels of currants for $1763; 950 barrels of apples for $1575; 480 bushels of peaches

for $1280; 68 bushels of pears for $178; 50 barrels of cider for $100, and currant plants sold for $120. The whole amounting to $5016. Then there should be added to this the value of fruits used in two large families, which the speaker said should be estimated at $150, and premiums received by Mr. Clapp during the year for fruits exhibited, amounting to $64; making the product of his orchard for last year to be worth $5230.

The speaker said that Mr. Clapp considered the Gravenstein the most profitable apple, and the Williams the next. He kept his trees well pruned, and generally pruned in the months of March and April before the swelling of the bud. The soil of his orchard was black and yellow loam, with a gravelly subsoil well drained, and this draining the speaker thought was the greatest element in his success. Mr. Clapp, said he, plants his currants in rows six feet apart, and applies manure in the fall, preferring well rotted and composted stable and barn manures. He thinks currants do better in the shade if not too dense, as so planted the bush does not shed its leaf so early. He uses the rooted slips. Col. Stone said that Mr. Clapp did not retail his fruit, but had the advantage of being near the market. He raised his currants under his apple trees, and by attending to his currants he favored his apples. The seedling that Mr. Clapp had produced from the Bartlett, Col. Stone considered far superior to the original pear, and he thought it would be of immense benefit, as there was always trouble in transplanting the Bartlett trees. He thought there was no more difficulty in raising pears than apples if moderate care was used, and he closed his remarks by warning persons setting out trees not to set them too low, as it was better to have them two inches too high than one too low.

Mr. FRAZIER, of Watertown, said he had an orchard which for a few years past had not been productive, and although the trees grew, the fruit did not. His neighbors had advised him to cut half the trees down, on the ground that they were too crowded, but he scarcely liked to do this, and he came to the meeting for information. Last fall he cut down a Baldwin tree, and it was perfectly sound, and it was so fine a tree that he could not cut down any more. He wished to know whether the bark bursting on the trunk and large limbs was caused by a defect at the root. His trees were 18 years old, and his land had been in grass five years.

The Chairman said that the land of Mr. Clapp previously referred to was exceedingly fertile, and the trees very large, the limbs interlacing each other. The trees, he thought, were 30 or 35 feet apart. He would recommend Mr. Frazier to plow his orchard with a light plow, and manure the surface, and he would predict a full crop.

Mr. SHELDON being called on, said that, when first he commenced planting, he put his trees 35 feet apart, then 30 feet, and latterly 25 feet, and he did not think this too close. He thought from what he had heard that Mr. Frazier's trees grew too fast, but he was sure that if he cut down half of them he would not get as many apples as he now does. His experience showed him that apples ripened earlier when the trees were planted close. He had noticed that apples did not keep so well as usual this year, and he attributed this to the extreme cold nights we had in September and October. The Red Astrachan apple, the speaker said, had been more profitable to him than any other variety.

Mr. WETHERELL, of Boston, had heard of the same trouble in Illinois that Mr. Frazier had, and a friend of his in western Massachusetts had also been troubled. In the latter case slacked lime was was applied, and with effect. He would recommend this, or manure and ashes, as a remedy for the difficulty, In the matter of pruning, he said he never cut off the large limb of a tree, as he should consider it would be the death of it, and he called attention to the continual sawing of the trees on our Common as a proof of the assertion. Pruning too much, he insisted, was worse than not pruning at all.

The Chairman said that he agreed with the views now expressed by the previous speaker, and he thought that the pruning of a tree should be conducted on the same principle as the education of a child, begin early and proceed cautiously. If pruning were done carefully, nothing larger than a jack-knife need ever be used. He would apply composition on every limb cut off larger than his thumb, as the air should in all cases be excluded. He approved of pruning when the trees were dormant, and his men had pruned more than a thousand last month, and would continue pruning until the sap ran.

Mr. SPARHAWK had seen Mr. Frazier's orchard and he thought it had been neglected, although it had been well laid out. He would preserve every tree in the orchard, as he considered with proper care they would be worth $100 each. He would have an experienced pruner go to work in August or September, and carefully prune the trees so as to let the light and air get to the roots, as he considered this as essential to the development of them as almost anything else. He said Mr. Frazier's orchard was on a side hill, and he would recommend him to put in tile drain, and then put on a compost with unleached ashes.

Mr. BANCROFT, of Salem, said he came to the meeting to ascertain what he should do with his land. Col. Stone had said that an orchard should not be seeded down, and he had land planted with fruit trees which he had cultivated two years.

and now he was compelled to lay the land down, and he wanted to know what it was best to sow. A deceased friend of his from whom he had often derived excellent information, had a thrifty growth of young trees, and he had sowed his land with barley and it had killed the trees, and he wished to know whether this would have the same effect on his trees. He had been told that barley, oats, rye, or any of the cereals, were ruinous to an orchard, and he was in a quandary. He did not think the fruit-raisers around Boston needed so much information as the broad acre farmers of the Commonwealth, to give more attention to the raising of fruit, and this auxiliary to the cultivation of their land.

The Chairman said that if he was obliged to seed land down situated as Mr. Bancroft was, he would take the trees from it, as without extraordinary cultivation he could not get a double crop from the same land. The only case he knew where this had been done was that of Mr. Pell, of New York, who grows wheat with his fruit trees, and this he removes in July or August, and manures specially for each crop.

Mr. HOWARD, editor of the *Cultivator*, also spoke of the fact of Mr. Pell growing wheat in his orchard, and said that his apple trees were young, and he manured for both wheat and his trees. Mr. Pell had been eminently successful in the growth of the Newtown Pippin.

Col. STONE did not like seeding orchard land down, but if he must do it, he would sow oats and cut them down when a few inches high, and let them remain on the land.

It having been announced that the subject for discussion would be "*Root Crops, and their cultivation in Massachusetts*," when CHARLES L. FLINT, Esq., Secretary of the Board of Agriculture will preside, the meeting adjourned.

SHOULD WE WASH OUR SHEEP?

Humanity, at least, says *No!* With the natural fear a sheep has for water, it must be cruel to subject them to such treatment as they sometimes get by the process familiarly called "washing;" yet, in truth, it is not only a detriment to the wool, but to the sheep.

We take it for granted, that what is good for the health of man in the way of care, holds good with the sheep; and who among all our shepherds would think of following his sheep home from the mill pond, without a change of clothes, when sometimes it is cold enough to make his teeth chatter. How can we then expect it to benefit our sheep, especially when we have a week's rainy weather just after washing, and very often, in this climate, it is cold and unhealthy for man and beast. Yet some will say it does the sheep no harm; but facts prove that this is not the case —both your sheep and lambs suffer materially.

But this is only one feature. *It costs a great deal of time and money*, which could be applied to a better use in cultivating our spring crop. It is no trifle to wash 3,000 sheep every year.

But the most potent argument in favor of not washing our sheep is, we can shear from three to four weeks sooner, and thus give the more time after shearing for the growth of wool, to protect them from the fall rains and from the cold in winter, which is no inconsiderable item. How often do we delay washing on account of the water being too cold, when the weather is abundantly warm to shear. The sheep will not suffer with the cold in May, if they are cared for during the three days immediately after shearing. We would gain one-sixth more clothing, to protect our sheep from the cold of winter, besides a stronger constitution and a healthier sheep, than if we had frozen our sheep in May, by washing them.

Finally, *manufacturers would rather have the wool unwashed.* They have to re-wash it after us; why not let them do their own washing, and then if it is not well done, they will know who to complain of. One-half of the wool in some sections of country where they have no clear running water, is actually damaged by the attempt to wash it on the back. It is made a bug-bear of in market, and thus the producer is forced to take less than his wool is really worth. Wool-growers! we stand in our own light upon this subject. But taking unwashed wool to market cannot be practiced by one here and there. It must be a general reform. How then shall we best and most directly get at it? It can be done by "Country Organizations." Shall we make the attempt? By so doing we shall practice humanity, save labor, save time and money, improve our sheep, benefit ourselves, and benefit the manufacturer. —*Cor. Ohio Farmer.*

For the New England Farmer.

EXPERIMENT WITH POTATOES.

MR. EDITOR:—There has been much of late in the *Farmer* respecting the potato disease; also upon the chemical preparation of Mr. Lyman Reed, of Baltimore, the efficacy of which has been tested by actual experiment upon our farm, two years ago this coming season.

Mr. Daniel Reed, brother of Mr. Lyman Reed, gave notice that he would prepare seed potatoes for the farmers here for fifty cents per bushel, his brother having sent him some of the preparation. Thinking that it might be the means of saving the crop of potatoes, I had two bushels prepared; one of Eastports and one of Davis Seedlings. At least, I thought it worth a dollar to know whether or not there was any good to be derived from it. The potatoes were kept in a warm room till they were well sprouted, then put into the liquid, which killed the sprouts, and made the tubers look withered as though they were a year old. To give it a fair trial I planted those that had been prepared side by side with those of the same variety that were not prepared, the manure and culture being the same with each. Eighteen per cent. of those that were prepared never came up at all, and the rest not till a fortnight after the unprepared. They continued to be two weeks behind the others all the season, and when we dug them the unprepared ones were much the larger and nicer potatoes.

Mr. Reed called two or three times during the season to examine the crops, and noticed the same difference in the tops which I did. He was also present at the digging of them. When we dug them, we were careful to count the number of hills which it took for each bushel, and likewise the number of diseased potatoes in each. The result was as follows:

EASTPORTS.

From 1 bushel of seed prepared I dug 8 bushels; the average number of hills to the bushel 39½, average number of diseased tubers to the bushel 20¾. From 1 bushel unprepared I dug 10 bushels; average number of hills to the bushel 40 6-10; average number of diseased ones to the bushel 10.

DAVIS SEEDLING.

PREPARED.

Seed.	*Yield.*	*Av. No. of Hills.*	*Diseased Ones.*
1 bush.	13 bush.	22¼	23

UNPREPARED.

½ bush.	8 bush.	15	22

It will be seen by the result that the preparation had not the desired effect of preventing the disease, and consequently was a failure. I have furnished you with the result of this experiment that others may learn wisdom. From this I draw the conclusion that all the patents got up to prevent potato rot are humbugs. However, I should like to learn the experience of other farmers in this matter as well as many others, for it is by such experiences that we are to get knowledge in farming as well as in other things. I think it is the duty of all farmers to lay before the public the results of all such experiments for the benefit of their brother farmers. Being a young farmer myself, I like to learn from the experience of others. C. H. CUMINGS.

Harvard, Mass., March 7, 1861.

For the New England Farmer.

ECONOMY IN USE OF ROOT CUTTERS.

MESSRS. EDITORS:—I have often noticed in the *Farmer* communications in regard to the best way to relieve cattle that were choked, and as often wondered at the "folly of sinners," and queried why it was that farmers, feeding out from 25 to 500 bushels of potatoes, carrots or turnips annually, and almost yearly losing or having injured by choking one or more creatures, besides considerable expense in attending upon them, were so slow to learn that there is a better way. They will cut their coarse fodder, and many of them their hay; paying for a machine with which to do it from $10 to $25; they will have their provender for horses, cattle, hogs and poultry, ground at an expense of about one-tenth part, and many will in addition cook it before feeding out; and yet they will feed out their potatoes, carrots, turnips, &c., whole, "dirt and all," or perhaps will give them a little hacking with an old axe or shovel!

The vegetable cutters in market cost only about $10 each, and I have never heard of any creatures being choked by eating vegetables cut by any kind of cutting machine, though undoubtedly there is a preference in the machines. It is but a few years since vegetables, except potatoes, have been raised considerably hereabouts for feeding to stock; but yet, there are now five kinds of root cutters here, and any of them better than none, and a sure remedy for choking cattle.

It is but a few days since I heard a very enterprising and thrifty young farmer, (who this past season raised 300 bushels wheat, 700 bushels oats, with corn, potatoes, turnips and &c., to match,) say that he had no doubt that there had been loss enough, by cattle choking in this town within fifty years, to supply the whole town with root cutters for a hundred years. Some two years since, I received a letter from a gentleman in western New York, in which he mentioned that he had the day before lost his best cow out of a lot of twelve, by being choked while eating turnips cut with a shovel; and that just about a year previous he lost one in the same way; and there was scarcely one of his neighbors who had not lost one or more in a similar manner; and he added, "Now I am going to have a root cutter, if I can get one this side of Jordan," and wished my advice as to kind.

Of the kinds of root cutters in use in this vicinity, two of them leave the roots in rectangular shaped pieces, superior only to those cut with a shovel, in that they are generally smaller, and cut with greater facility. One kind cuts them in gouge-shaped bits, about three-fourths an inch wide, and one-fourth in thickness, and quite rapidly; I think about a bushel per minute, if forced a little. The other kinds are used chiefly, and preferred because they not only cut, but clean the roots; they also leave them in thinner and more pliable shape, better to be mixed with meal, grain or "cut feed," cutting also equally fast. It is astonishing to see what an amount of dirt may be taken off from apparently clean roots, without water, too. From actual experiment, in hundreds of instances, in this town, it has been ascertained that these vegetables have adhering to them as they are brought from the cellar, from one to two quarts of dirt to every bushel, most of which is necessarily eaten, when fed in the ordinary way, without cleaning. Now, besides the great injury, both medicinal and mechanical, to teeth, stomach and bowels, caused by so much dirt, there is no doubt that dirty vegetables are more likely to stick in the throat than clean ones.

The construction of this machine is very simple and durable, the cleansing part, consisting of a revolving cylinder so arranged that the dirt falls out on one side, and the vegetables are dropped from the other into the hopper, from whence they are cut by semi-conical shaped knives upon a conical shaped, hollow cylinder, through which they fall by a spout into a basket.

This last machine has not been in the city markets, I believe, for which reason I thought it might be neighborly to describe it more particularly, and the invention, I think, has been secured by a resident of this county.

Now, brother farmers, don't be so cruel and foolish as to let your cattle choke, and then run broom handles, forked sticks, et cetera, down their throats, or rack your brains to find some other way to get out the obstruction. Be wise enough not to let it get in there, and if you do not grate your roots before feeding, as is done in European countries, do for mercy's sake cut them up in respectable shape, and this will also enhance their value and useful effects, as much as

you do your fodder by cutting, or your grain by grinding. Is it not so, Mr. Editor? And what think you of making stock eat a couple of quarts or so of dirt with every bushel of roots? And will not vegetables, cleaned and cut into strips one-eighth inch thick, cook, if desired, with one-fourth the cost for fuel required for whole ones, besides making much better feed for the cleaning?

R——, Vt., 1861. BULBOUS.

EXTRACTS AND REPLIES.

WHAT FERTILIZER TO USE.

I wish to inquire in regard to advertised fertilizers. I have a piece of land that has been cultivated two or three years, and is in good condition. Although of rather a clayey soil, yet it is good for corn. Thinking I could use some advertised fertilizers to profit, I wish to inquire which is the best for such kinds of land? Among the best recommended is Coe's superphospate of lime; do you know anything of its merits?

Northampton, 1861. A SUBSCRIBER.

REMARKS.—We cannot tell you what the best "advertised fertilizer" is. Some that have proved quite successful with us, have given little satisfaction to others, so that we dare not commend any one of them in preference to other kinds. So much depends upon soil, manner and time of using, &c., that the results will be widely variable when precisely the same article is used in different localities. You must experiment in a small way for yourself, and gather the opinions of others as they are incidentally given.

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GRAIN FOR SHEEP.

Will oats hurt sheep to feed to them without being ground? It is said by our farmers here that they have lost a number by the use of them. What kind of grain is best to give them?

Henniker, March, 1861. N. M.

REMARKS.—Will some of our farmers give you, or us, the reasons why unground oats will hurt sheep? It is a new doctrine to us, and we cannot credit it upon a mere assertion. Fed in proper quantities, we believe them admirably adapted to sheep, and have been informed by some of the most successful sheep growers in Vermont that they are in the constant practice of using them for sheep. Corn and beans are excellent—better ground than unground—but all grain must be fed to sheep judiciously.

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A FINE HOG.

A. J. Spalding, 2d, has raised a very fine hog this past season, which I think is worthy of notice. It had rather ordinary keeping, and yet, at the age of 21 months, it was killed and weighed 640 lbs. And what is best in regard to it, the pork is of a very fine quality, suitable for family use. It was sold to Mr. Elliot, a noted provision dealer in Salem, and placed by the side of Mr. Rogers' great hog of South Danvers. I think those that raise large hogs should make correct statements in regard to age, &c, and not say that a hog is two years old, when in reality it is nearer four years. P. W.

Danvers, March, 1861.

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TO RELIEVE CHOKED CATTLE.

Quite a variety of ways have already been pointed out in your paper for relieving choked cattle, some of which I doubt not are safe and sure. But as cattle continue to get choked under circumstances which do not always admit of the same remedies, it may be well that the community should be informed of all the different methods by which the evils may be removed. One method I happened to have knowledge of, which I have not yet seen noticed. If you think proper, please insert it.

When I was a boy, probably about ten years old, my father had an ox that got choked, I think with a potato; to save him he must have speedy relief. It was done in this way. He was put in his usual place in the stall; my father on his left side took him by the horn with his right hand, and with his left grasped his tongue and drew it out by the side of his mouth and held it fast; an older brother helping on the other side to keep his head steady, I was then told to pull my shirt sleeve up to the shoulder and thrust my hand down his throat, and take out the potato. I said he would bite me. No, my father said, he could not, for his tongue was between his teeth. I then thrust down my arm the whole length—got hold of the potato, and removed it in less than a moment, and all was well.

AN EARLY SPRING.

A letter just received from Tuskegee, Alabama, dated March 7, says, "We are planting here."

Another from Emporia, Kansas, dated March 4, says, "We have now every indication of an early spring. Grass is springing up, and everything looks hopeful. On the 2d inst. I brought in to Mrs. M. the *first* flower." W. J.

Monadnoc, No. 4.

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ADVERTISING FARMS FOR SALE.

Allow me to call the attention of that class of your patrons who are about to advertise "Farms for Sale," to the fact that it will forward their wishes, as well as be of great assistance to applicants, to give a description of the place for sale, and, what is very important, the *price* desired.

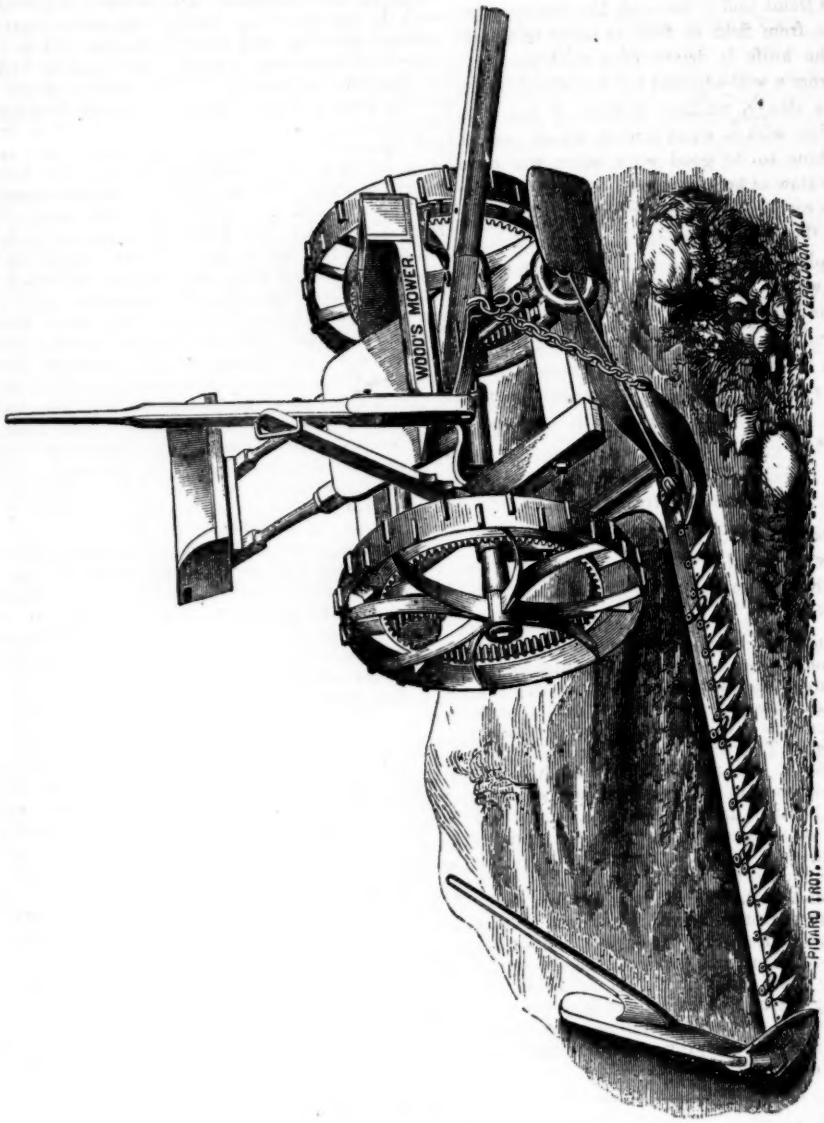
Some places are represented as cheap, others, to inquire of some one sixty or a hundred miles away. It is true, we can correspond to ascertain particulars, but in nine cases out of ten, if the description and the price suited those in want, they would take pains to go in person and view the premises. A friend of mine, last spring, travelled some two hundred miles to see a place advertised as cheap, and ascertained that the price was $4000, when his finances would not permit him to invest over $2500.

Boston, March, 1861. A SUBSCRIBER.

"A SUBSCRIBER'S WIFE," is informed that we do not know the person for whom she inquires. His article was copied as one of general interest. We suppose good seeds such as she wants may be procured at the seed stores.

WOOD'S IMPROVED MOWING MACHINE.

We have seen this machine do excellent work, and have heard it highly spoken of by those who use it upon their farms. Its success during the harvest of 1859 was very satisfactory to many persons. Over thirty-four hundred of them, we are told, have been sold and successfully used within two years. Many farmers speak enthusiastically of their light draft, and perfect cutting, and a large number were put into the market from a full faith that the true mechanical and practical principles in constructing a Mowing Machine had been attained. The manufacturers claim that a Mowing Machine has been produced



of lighter draft, and can be afforded to the farmer at a less price than any heretofore in use, and at the same time be light, durable, and do perfect work—and that it will cut a more perfect swath than any other Mower, and do it with one-quarter less power. The usual number of knives furnished with a machine is two; the necessity for keeping the knives sharp requires that there should be three; this will enable the farmer to work through the forenoon without stopping to sharpen his knives, and after sharpening at noon, to finish the day's work without interruption.

The two-horse Machines weigh 514 pounds each, *run on two driving-wheels* placed 30 inches apart, each wheel 28 inches in diameter. The frame rests upon and is firmly secured to the axle of the wheels, and supports the gearing and a seat for the driver. The finger-bar is attached to the Machine by one bolt, and can be easily removed by taking off one nut; and when placed upon the frame under the seat, the Machine can be driven from field to field as easily as a light cart. The knife is driven by a crank-pin, projecting from a well-adjusted balance-wheel, which gives it a steady, uniform motion; it has a rapid motion with a short stroke, which enables the Machine to do good work when the team moves as slow as horses or oxen can walk. These Machines can be easily and instantly thrown out of gear, thereby giving motion to the driving wheels only when mowing. They cut a swath four feet wide.

The one-horse Machine is constructed on the same plan, and in the same manner in all respects, as the two-horse Machine, except that it has shafts instead of a pole, weighs 50 pounds less, (464 pounds,) and cuts a swath three and a half feet wide.

LAMPAS IN HORSES.

A correspondent of the *Mark Lane Express* writes how a cure of this disease was effected by homœopathic treatment, in the case of a valuable carriage horse:

The animal had been suffering from the disease for sometime before the servant mentioned that it was ailing. An allopathic veterinary surgeon, who was consulted, declared that *it was impossible to remove the diseased part except by cutting and burning.* This we refused to permit, and began to treat it with homœopathic remedies, but, owing to our want of skill, without any success; the horse became daily worse; the palate and gums were so swollen as to prevent the power of mastication, and were like a white sponge. In this emergency we took the liberty of consulting a clever homœopathic M. D., who advised us to try RHUS TOXICODENDRON A, five drops in half-a pint of water, twice a day. In sixteen hours from the first dose, there was an improvement in the *color* of the gums and palate. The following day the swelling began to subside, and in seven days the creature was quite well, and has never since that time (a period of two years and a half) had any recurrence of the ailment.

CLUBBING OF CABBAGES.—A handful of superphosphate and a tablespoonful of McDougall's disinfecting powder, put into each hill of some 1500 cabbages belonging to a correspondent of the Philadelphia *Farmer and Gardener*, saved all but about twenty, which probably missed their portion of phosphate and powder.

For the New England Farmer.

FARM IN CONN. RIVER VALLEY.

MR. EDITOR:—I am a young farmer living in the Connecticut valley, near Mounts Tom and Holyoke; have long been interested in your valuable paper, and gleaned therefrom much instruction of great value in my daily occupations: I read from week to week with great interest its agricultural and scientific discussions: together with the reports of the weekly Legislative agricultural meeting, and market reports. Since I have been engaged in farming, I have often looked in vain for contributions from "tillers of the soil" in this section of the country. As our farming in the alluvial soil is quite different from that in most parts of the State, a little good advice is what we need, and should appreciate. For the benefit, perhaps, of some who have never become familiar with this section, I will name some of these differences. The farms are generally small, but often large barns may be seen well filled, showing that a few acres, well tended, are much more profitable than many half cared for. $200 per acre is about the average price for land. We have no pastures, therefore cows are mostly kept in stables, fed on cut feed, and for a change, on green food in Summer. We have no top-dressing to do for our mowing, that is all done on the low lands by the Connecticut river, avoiding thereby all discussions as to which season is the best for these deposits.

There is a great advantage derived from having the land scattered in small lots, as each farmer has thus several different kinds of soil to deal with, enabling him to raise different kinds of crops to good advantage; the principal of which are broom-corn, tobacco, corn, potatoes, wheat, rye, oats, barley; to these we hope soon to add flax.

We "Young America," believe in plowing deep; "our fathers" tell us to "let the plow run lightly," but I think they acknowledge the benefit derived from deep plowing in case of drought or a dry season. Many have experimented upon lots, in plowing under green clover and rye in the spring, and in the fall broom-corn, stalks and buckwheat. I would like to assure you, in closing, that if your attempts to give us, weekly, an accurate account of beef markets are successful, your reward from this vicinity will be in obtaining not a few subscribers. In this important reform, we all bid you "good speed."

I would like your opinion in regard to plowing under clover in June for tobacco; as it is then tall, rank and green, I imagine it injures the present crop. Would it not be better to mow it, and let it wilt? YOUNG FARMER.

Northampton, Feb., 1861.

REMARKS.—We have been told by chemists that if clover is plowed under when green, that as soon as it begins to ferment it throws off its starch and sugar in the form of gas, and these fertilizing properties are lost. Others do not deny the fact that these valuable properties are transformed into gases and pass off, but that the gases are retained in, and absorbed by the soil, and that nothing valuable is lost. You must look into the matter more thoroughly for yourself.

For the New England Farmer.

OUGHT NEW ENGLAND FARMERS TO RAISE THEIR OWN BREAD?

This, Mr. Editor, is an important question, and one calling for a candid consideration from every farmer. Of course, I do not include as farmers those who are engaged in market-gardening, or making milk for city or village use. Every man is presumed to know his own business better than those not familiar with all its details—yet most, if not all, in every occupation, may be at times set to thinking by some suggestion cast in their way by others who would not aspire to be their teachers. For this purpose I ask the question at the head of this article, hoping many will give it sufficient attention to see if it cannot be answered in the affirmative in their case. I am fully assured that all cannot profitably raise wheat on their lands, yet still fully satisfied that as a general thing it is possible, and can be done profitably as compared with other crops. I suppose it is true, that the past two years have been very good for wheat growing, and that it will not answer for us to expect like crops in coming years: still, there is ample testimony to show that in a series of years, uniform success has been the result.

For the encouragement of those who are disposed to see what can be done by trial, I will cite a few instances of success that have come to my knowledge. James Le Barron, of Mattapoisett, in '59, raised two acres that threshed out fifty bushels. This past season's crop promised equally well when I saw it. I have not learned the amount threshed out. A neighbor of his had a field along side, which was much better, and I judged would turn thirty bushels to the acre, and several around this region have been equally successful. I was in Little Compton, R. I., recently, and learned that several of the prominent farmers in that garden of New England had raised large crops of wheat, or rather obtained a great yield per acre; John and Levy Sisson, getting thirty-five bushels, and their brother, Daniel Sisson, from two acres, obtaining eighty-eight bushels. The straw was put into the hay-press, and baled and sold in Providence for fourteen dollars a ton, which I should judge must have paid all the incidental expenses of raising the crop. The last named individual purposes sowing eleven acres this spring. The seed used by the above men is called Japanese spring wheat.

I doubt if fall sowing, as a general thing, would succeed, when, as with us on the coast, so little snow is to be relied upon to cover it from frost, and save from winter-killing. All clay lands should be avoided for fall sowing, unless well covered with straw, or what is still better, where it can be obtained, sea-weed.*

From the published testimony of many, I should judge that wheat should be soaked in strong brine previous to sowing, and either ashes or plaster sifted over it while wet. In many instances this preparation has increased the product twenty per cent. I trust the day is not distant, when we farmers of New England will find that, after all that has been said about our dependence upon what is termed the grain-growing States, we cannot only raise our bread, but get more of it from an equal surface, and reap a larger profit than they can possibly do, so far from a market, that consumes it. In many localities the want of suitable mills for farmers to have their wheat made into good family flour is a serious evil, but one that will soon disappear, when wheat raising has become a fixed fact. The mills will surely be provided. No law is so sure as that supply quickly treads upon the heels of a demand.

I ask again, who of our New England farmers will raise their own bread, this very year?

Rochester, March 16, 1861. JOSEPH COE.

* NOTE BY THE EDITOR.—Thorough draining will probably accomplish more than any thing else in preventing the winter-killing of wheat.

For the New England Farmer.

PULVERIZATION OF MANURES.

This is a subject in which I heartily agree with "M. F.," in saying that its importance demands a more thorough attention. I am aware that the former practice of manuring in the hill is fast being superseded by the application of manure broadcast, and therefore the most strict attention should be given to the pulverization of the manure thus applied. The evenness of spreading on the surface is very essential, that the roots of the plants may partake of the manure equally, and thus promote a more even growth through the field. The beauty of a crop is evenness and equality in its growth. I have often heard the remark, "I wonder what makes that corn so uneven." I think if they should pay more attention to the pulverization of the manure, and evenness of spreading, so that the roots of the plants may readily take up the manure, that they would have no occasion to ask, or wonder why one plant does not grow so rapidly as another. This is a subject which has been greatly neglected by the majority of our farmers. Often do we notice newly-seeded pieces, which are striking evidences of the manner in which the manure was applied. My mode of management is as follows:

Three or four days before I want to use a quantity of manure, I fork it up into a heap, occasionally applying plaster as an absorbent and pulverizer, at the same time taking care to break to pieces the largest lumps. After two days, fork over again and cover with plaster, and at the end of the fourth day, the manure will be in prime condition to cart out, and apply broadcast, and if sheep manure (as the most of mine is), you will need a shovel to spread it. Great care should be taken not to let it remain too long in the heap, as it will burn, and thus destroy the life of the manure.

Hatfield, March 11, 1861. J. E. W.

CORN AND COB MEAL.—It is suggested by the *Homestead* that there is something peculiar, and in some cases injurious, in the action of this food upon animals, being strongly constipating, &c. On the presumption that cobs "in a natural state," are not food, it is suggested by the writer that "Cases are rare where products, which in a natural state cannot be used as food, have any considerable value when artificially made eatable." But is this assumption correct? Green cobs are

relished by swine and cattle; even dry, last year's cobs were eaten greedily by a cow of ours! Who can account for tastes?

For the New England Farmer.

MACHINES FOR PEELING WILLOWS, AND WRINGING CLOTHES.

Perseverance ensures success. A few years since, the attention of the agricultural community was called to the fact that large sums of money are annually sent from this to foreign countries, for the purchase of the basket willow, for manufacturing the various articles of commerce known as "wicker-work."

The inquiry naturally suggested itself to the Yankee mind, Why not supply this demand by home production, and thus save the cash paid for it for the use of our own countrymen? Our marshes and lowlands will produce the article to perfection, and our ingenuity can invent machines by which it can be prepared for market.

The objection was raised, that labor is so much higher here than in the old country, that we cannot peel and prepare for the weaver so as to compete with the imported article; and to this objection the efficient reply was made—We can make a machine that will do this, as well as other things for which Yankee ingenuity is proverbial.

As is generally the case, help came from among the hills in the agricultural districts. On the banks of the Winooski, the inventive genius of a young man began to dream out a plan, by which a machine might be made to do the work of a number of men, and produce a better article than those peeled by hand. The first plan, as is usually the case with valuable inventions, needed much ingenuity to perfect it, and many and expensive experiments must be made, in order to render it perfect. Perseverance finally ensured *success*, and the invention is before the public.

Finding his facilities for operating too much restricted, he removed to Waterbury, where, in an outlay far beyond his means, he risked his fortune, in company with a brother, and embarked in an enterprise which was an entire experiment in the history of "wicker-work." New efforts presented new hindrances, and increasing obstacles in the way of successful operation only roused increasing efforts to remove those obstacles, and brought out hitherto latent powers. One after another new facilities for carrying on the business of raising, peeling and manufacturing all kinds of willow ware in demand for the commercial world, were brought into requisition.

The question, Will it pay? is now solved, and the idea of the peeling-machine is applied to another use. Those flexible rubber rollers are neatly arranged, and made to press the water from the washerwoman's clothes with ease and rapidity.

This little machine, so simple as to be managed by a child, so cheap as to be within the means of every family, costing but three dollars and fifty cents, will *wring* the clothes much drier and quicker and infinitely easier than the strongest-armed Irish girl, and is to be reckoned among the many useful inventions for rendering kitchen work easier, and the washing-day less to be dreaded. Indeed, with a good washing machine, and "George J. Colby's Wringer," we shall scarcely know when Monday comes. Washing day will be as quiet as Thursday, and Monday morning will not find the good, old dames "up, and a good fire agoing, and the clothes on boiling before one o'clock." Those good old mothers will not have to "keep Saturday nights" in order to put their "clothes asoak" Sunday nights. Then may they rest from their labors from the beginning of the Sabbath till the "red rosy light" of Monday morning.

Now, Mr. Editor, do not be surprised at my moralizing upon the clothes-wringer, for I conscientiously believe whatever lessens the task of washing day, in the same proportion will increase the quiet of the "Holy Sabbath Eve" that most sacred of all domestic hours.

Lest I weary the patience of your readers, let me add that this last invention has so far proved that perseverance will ensure success, that funds will no more be lacking. Sales of Territory have already been made which place its success beyond a doubt, and Howden, Colby & Co., are yet to be among the wealthy citizens of the Green Mountain State. The demand already warrants the manufacture of 500 per week, and when it has been before the public one year, or until December 4, 1861, ten times that number will not supply the demand.

Lest your readers may regard the above as a puff, let me simply add that it is written by one entirely disinterested in the business, without the knowledge or consent of the inventor or any person engaged in the business, and purely from a desire to see the untiring efforts of perseverance in a good cause, crowned with success.

Vermont, Feb., 1861. P. J.

REMARKS.—The above communication has been on hand several weeks, until we could make trial of the wringing-machine so highly spoken of by our correspondent. It is has been in use in our family for three or four weeks, and our women folks say there is nothing like it. It is adjusted in a moment to any common tub, without the aid of screws or any other contrivance, but is held by the simple pressure of its parts. The clothes, from a shirt to a muslin collar, are "wrung" with equal ease and facility, by passing them between rubber rollers. The flexibility of these rollers is so great that a thin card and a common pocket-knife, which we put between them side by side, were held with equal firmness, and so tight that we could not remove them without revolving the rollers. By this machine, the clothes are not *wrung*, but *pressed*, so that all twisting of the seams, and of the fabric of the cloth, which is so injurious to thin materials, is entirely avoided, and the work is done in a much better manner, as well as more thoroughly than by hand. Knowing our correspondent well, we can endorse all he says of his connection with the machine, and now that we have made a fair trial of the machine itself, we do not regard his praise of it as anything more than it well deserves.

LEGISLATIVE AGRICULTURAL SOCIETY.

[REPORTED FOR THE N. E. FARMER, BY THOMAS BRADLEY.]

The eleventh meeting of the Legislative Agricultural Society took place on Monday evening last, a good company being present. The meeting was called to order by Dr. MASON, of Dartmouth, and CHARLES L. FLINT, Esq., Secretary of the Board of Agriculture, was introduced as Chairman of the evening.

On taking the chair, Mr. Flint said that the statements with regard to the economy of root culture in New England have often been too indiscriminate and unqualified. If, as Mr. Webster asserted, the failure of the turnip crop a single year would bankrupt England, it does not then follow that its extensive culture is of the same relative importance to us. If root culture is the basis of successful English farming, it does not follow, as a matter of course, that it would be for us. If the English farmer could raise 75 bushels of Indian corn to the acre as easy as we can, it might possibly modify his present system, to some extent. He did not mean to convey the idea that the extensive culture of roots is not equally profitable for us as for the British farmer, but merely to suggest the difference in our situations.

The perfect development of most of our cultivated roots requires a moist and equable climate. This the English farmer has, and we have not. The point of profit for him lies in the fact that root culture forms the most admirable preparation for wheat and other crops, and not in the intrinsic value of roots themselves. He might, if he could, be glad to dispense with the culture of so large an area as he generally devotes to the turnip, but then his wheat would soon fall off. Root crops, in other words, are cultivated chiefly as a means of making manure and to keep up the fertility of the land. Considered by themselves simply as food for cattle, they are not thought even by English farmers to pay the cost of cultivation. But as a change of food, either for horses, milch cows or sheep, the culture of roots, to a limited extent, and no doubt to a greater extent than is common with us, ought to have a place in every good system of husbandry.

Carrots, for horses not overworked, are worth pound for pound, nearly as much as oats. That is, a hundred bushels of carrots and a hundred bushels of oats are worth about as much to feed to horses as two hundred bushels of oats alone. The actual practical value for feeding purposes, does not always correspond with the theoretical value based on the comparative amount of nutriment in each.

Carrots are not so important to feed to cows in milk as to horses, though they improve the quality. The short-horn and the long orange are among the best varieties, though the white Belgian will yield the largest. It has been produced at the rate of two thousand bushels to the acre. To cultivate carrots to any profit the utmost care is required to keep the land free from weed-seed, and unless the land is clean as well as the manure, the labor of taking care of this crop is enormous, and the expense too great to be borne.

For feeding to dairy cows the mangold is one of the best roots now cultivated. Though its nutritive qualities are far less than those of the carrot, and less even than those of the turnip, it is well settled that it excels those roots in producing a large flow of milk.

The mangold is a variety of beet, and has been extensively cultivated for feeding to stock in England and France, and to some extent in this country. William Birnie, of Springfield, raised 95 tons of mangolds the last season on two acres and a half, or at the rate of 38 tons to the acre. This is a large yield to be sure, more than could be expected in ordinary culture, but it shows what can be done. The Silesian beet, or the sugar beet, is a variety, that is cultivated to some extent, though he thought to less profit with us, than either mangolds or Swedes. The ruta baga, sometimes called Swedish turnip, is a variety of rape. It is one of the most profitable roots to cultivate, especially for feeding to sheep. It is more apt to taint the flavor of milk and butter than mangolds or carrots, but if boiled, or cut and salted, this objection to it may be avoided.

The root crop, generally, requires a good supply of phosphates in the soil or in the manure, and bones treated with diluted sulphuric acid, or the vitriol of commerce, or guano, or other concentrated manures rich in phosphate of lime, are more effective on this crop than on most others. These substances have the advantage of perfect freedom from weed-seed, a consideration of the utmost importance to this crop. The work on root crops should be accomplished so far as possible by machinery. Hand labor on them is extremely laborious and expensive. Carrots, for instance, sown as soon as practicable after the 15th of April, in drills from two to two and a half feet apart, may be cultivated with the horse hoe two or three times, and then a row of turnips or ruta bagas sown in the intermediate spaces. A large amount of expensive hand labor may also be saved in the culture of mangolds by the use of the horse hoe.

Mr. HARTWELL, of New Marlborough, said he had experimented to a limited extent in raising root crops, but had not met with much success. We have, said he, the corn crop, for a tillage crop, which they had not in England, but this was not a sure crop, from the variableness of our climate, and if farmers could cultivate a crop that would

be more certain and pay as well, he thought it would be a great advantage. The question with him was, whether the root crop was of sufficient value to grazing farmers, or those who had, perhaps, a couple of hundred acres of good grazing land, to justify them in diverting a part of their manures to highly cultivate sufficient land for root culture. We know, said he, that on good land, with very high cultivation, enormous yields could be got, but it was doubtful to his mind, whether among the class of farmers he had mentioned, this would pay.

Col. WHITE, of Petersham, spoke of the importance of root culture to farmers, and said he had regretted to hear, at previous meetings, practical men doubt the advantages of this crop. In his section of the State few had gone into it, but those who had paid attention to it had done well. There was a good deal of good hay about where he resided, and some that was poor, and these advocates of root culture there had found they could do better by giving part roots and part poor hay to their cattle, than if they fed entirely on good hay, and he was satisfied that he could keep ten cows better on roots and poor hay than by the entire use of the best hay alone. He wanted to know what kind of roots were the best to raise. He had done very well with ruta baga and mangolds, but the sugar beet had been spoken of by the Chairman, and he was desirous to ascertain whether that would not be more profitable. He was also in want of information as to how to follow root crops—whether beets after turnips, or in what order they should be grown. His neighbors were going extensively into root culture and there was a very general feeling among them that it would pay.

The Chairman said it had been very generally conceded that a tap-rooted plant should follow a flat-rooted one, and *vice versa*, as the ground is found by this course to be in better condition for a good crop. He spoke of the advantages from this course, the feeding qualities of the soil being thus brought near the surface. He said that Indian corn should never follow ruta baga, as in very many instances in which he had known of its being tried he had never heard that it succeeded. He did not know why this was, but it was an undoubted fact.

Dr. GEORGE B. LORING, of Salem, was glad to see the change that was taking place in the minds of farmers in relation to the value of root crops. The culture of root crops might be considered high farming, but he would not recommend every farmer to raise roots, as where the value of hay was extremely low, and where, of necessity, a farmer is compelled to raise corn for his own consumption, root culture is of doubtful expediency. Where one or two tons of hay are raised to the acre, and this is worth only $10 per ton, it is preferable to roots, for the reason that the roots cost so much more than the hay can be sold for; but where a farmer can buy his corn cheaper than he can raise it, or can sell his hay at city prices, then roots are indispensable. Taking hay as the standard at 100, Swedes or ruta bagas would stand in nutritive qualities 300, mangolds 400, carrots 250 and corn 52. Thus 2½ tons of carrots were equal to 1 ton of hay, and where, in high farming, a fair crop of carrots is 20 tons to the acre; this is equal to 8 tons of hay; while 500 bushels of carrots are equal to 100 of corn, it is easier to raise the carrots than the corn; thus the question whether it is profitable to divert manure for raising root crops, is answered by this. The raising of roots should be regulated by the wants of the farmer. Swedes and other turnips are the most profitable roots on which to fat cattle, as they can be raised so much cheaper than mangolds, as no more mangolds will grow on the same ground than turnips. Mangolds for dairy farming are, perhaps, the best, as, with a little meal, they cause a free flow of milk and keep cows in good condition. One trouble in root culture is that farmers put them too thick and the rows too close together. He planted Swedes and mangolds 2 to 2½ feet apart, in rows, so that he could cultivate with a horse hoe well, and this he found the best method; carrots were more difficult to cultivate, but he pursued a similar course. He agreed with the Chairman as to following root crops, but he felt sure carrots could be grown on the same land two years in succession, and he thought three. A light soil was best for smooth Swedes, a solid substantial clayey one for mangolds, and carrots would do well anywhere, if well manured and cultivated.

Mr. WETHERELL, of Boston, spoke of reports of experiments made in raising the English turnips by men in Massachusetts, New Hampshire and Rhode Island, the result of which appeared in the Patent Office Report, and in which the parties had used 25 cords of manure to the acre, and had only raised 10 or 12 tons of turnips, as also of the analysis made of the English turnip, by Prof. Donellson, of England, showing that hay stood as 5 to 1 of turnips in nutritive qualities. He then called attention to the report of Mr. Atwater, of the State Board of Agriculture, on root culture, and said that from this report it would be seen that the Board of Agriculture does not consider the turnip culture advisable. The speaker thought that when we can raise 75 bushels of corn to the acre, it was far better than raising roots. In relation to the failure of the corn crop, he said that, in 16 years out of 20, the corn crop had been successful in this State, while the turnip crop was a decidedly uncertain crop.

Dr. LORING said that the last speaker had spoken solely on English turnips and corn, the former having had 25 cords of manure to the acre, but he would say that in this section we cultivated in a much more economical manner, and we raised by this something more than "organized water." As a member of the Board of Agriculture, he wished to say that he did not endorse the report in full, although there were some good features in it, but he decidedly objected to the sweeping recommendation with which the report closed.

Mr. PROCTOR, of Danvers, considered carrots one of the very best of root crops, although it required care and attention. It was an excellent preparatory crop for onions, and before the destroyer came, this latter was the best and most profitable crop raised in the county of Essex. The beet he considered good, as was the potato. Of the latter, said he, we can raise 300 bushels to the acre, and we can raise four times as much roots to the acre as hay. Corn is the staple crop, but it was seldom we hear of a yield of over 80 bushels to the acre. He had never been on a farm in his life where there was not considerable land that was good for carrots.

Mr. SHELDON, of Wilmington, spoke particularly of potatoes, and said he thought enough care was not bestowed on them. Nothing after grass will make butter better than they will; pumpkins and carrots give it a better color, but the butter was not so good. A bullock fed on potatoes, appearing the same size as one fed on the ordinary feed, would weigh more by this course. In the country, he thought potatoes were as cheap a root crop as any for cattle, but near the city it was more profitable to send them to market. For 65 years he had not known the corn crop fail more than five times. He had raised ruta bagas, but until last year, he thought they impoverished the land; last year he planted some in a sand hill where he had to put on birch boughs to keep the sand and seed from blowing away, and he got an excellent crop of smooth, round ones "as handsome as a picture." He said he had been in the habit of planting 13 kinds of potatoes, and the earliest he had were "balls;" he considered the Davis' seedling and the Nova Scotia chenangoes also a good kind. He planted in swampy ground.

Col. STONE, of Dedham, said that as corn had been spoken of, he would state that he had procured some seed from Mr. CLAPP, of Dorchester, of a kind of corn which he had never seen excelled both for yield and early ripening. He had got some of the Vermont 90 days corn, and planted it alongside this, and Mr. Clapp's ripened some days earlier. It had been tried by a number of others, and all agreed in saying it was the earliest and best they had grown. For the benefit of those who wished to try it, (although he had none for sale,) Col. Stone said he would leave a few ears with the Secretary of the Board of Agriculture.

The subject for discussion at the next meeting will be, "*The Management of the Dairy*," when Mr. ALLEN PUTNAM, of Roxbury, will preside.

For the New England Farmer.

RAILROAD SONG.

MESSRS. EDITORS:—The following trifle of mine, composed while awaiting an arrival at a railway station, was first printed in the Springfield *Republican*. It appears to take so well, however, especially with the juveniles, and I have so often been requested to copy it, that I am induced to give it to you for republication.

Yours, truly, J. D. C.

Gill, March 23, 1861.

RAILROAD SONG.

BY THE PEASANT BARD.

There's the bell! listen well!
"All aboard!" is the cry;
We are going, going,—gone,—
We'll be back, by-and-bye.
Now we're jumping with a thumping and a bumping
O'er the rails;
But our horse has "taken something," and his
Strength never fails.

Hear the bell; listen well;
"Clear the track!" is the cry;
We are flying, flying,—flown
Like a "streak o' lightning" by.
What a racket! how we clack it, as we track it
O'er the rails!
But our pony needn't slack it, for his
Strength never fails.

Blow it loud to the crowd
Who our coming wait to spy;
We are coming, coming,—come;—
Rub the cinders from your eye,
As we're sliding, and are gliding, and are riding
Into town;
Never horse less need of "hiding," or less need of
Rubbing down.

For the New England Farmer.

SEED TIME.

MR. EDITOR:—When we get past the middle of March we begin to think of "seed time." Already, on this Island, potatoes were planted 10 or 12 days ago, during the warm spell of 5 or 6 days. Our farmers are *skilled* in this department. They cut off the "seed end" or small cluster of eyes, give them to the pigs, and then cut the potatoes lengthwise into quarters, and plant twenty inches apart in rows. They say they get as many or more pounds, and "all large potatoes." The large eye, or germ, is on the body of the potato. The small ones on the end will make small potatoes and prevent the growth of the larger ones. Three to five vines in a hill are enough. Try it, if you doubt; it costs neither time or trouble. I have passed through several potato fields, and not a small vine to be seen; so in digging time, I have seen the ground covered, and not a potato that was not marketable as to size.

Again, in watching the potato articles from your various correspondents, it is positive evidence to me, and common sense in the aggregate, that it is a fatal mistake to plant small potatoes. On this Island, with a ready market and high price, they avoid seed ends and small potatoes, and select the largest for seed, as every judicious farmer would select and trace up his best ears of corn for seed. I hope to hear from some of your subscribers on this subject at the gathering of the next crop.

In corn planting, does not the new dropper place it too closely together? My impression is, that if the kernels are three or four inches apart, the stock grows freer, ears better, and is less liable to suckers. Has this experiment ever been tried? Would not heavy winds pass through and allow it to stand up better than if in a solid body? Weeds and suckers could be more easily exterminated.

In selecting lands for spring wheat, none should be appropriated to this crop but the *warmest* and *earliest* on the farm. It should be the first grain in the ground—the seed prepared in salt pickle for 12 hours, raked in ashes. No time must be lost in forcing it, to escape the blight and mildew of dog days.

Your richest sloping lands are best for winter wheat, sward is best, and every farmer has more or less mowing patches that need the plow. With the advantage of both crops, (spring and winter,) no farmer, making pretensions as such, should go into the market for a barrel of flour.

Brooklyn, L. I., March 18, 1861. H. POOR.

For the New England Farmer.

THOROUGH UNDERDRAINING WITH TILE.

My experience in laying tile drains commenced in August, 1858; soil nearly level, formerly cedar, pine and black ash swamp; top soil black muck, from six inches to four feet in depth; subsoil various. In some places sand, others clay, a mixture of sand and clay, and in some places a real hard pan. Through this swamp runs a small brook which is the outlet of all the tile drains, and in consequence of the slight fall for 80 rods below, and a lime-stone rock laying across the bed of the stream, I was unable to settle the stream and outlet as low as was desirable, and many of the tiles, at their discharge into the outlet, had to be below the bed of the brook, in order to lay them three feet deep in the soil. This is as shallow a depth as any of 32,000 that are laid up to this time have been placed. This land is so level that the average fall to the drains is rather less than ⅛ inch to the rod, say about one inch in ten rods; the distance of drains apart is generally 40 to 42 feet; those in sandy subsoil, 70 feet; others in the lowest places, with clay or hard pan subsoil, 30 feet apart. The main drains that enter the outlet, are one of 4½ inch, of 1000 pieces horse shoe tile, laid on a narrow board. This satisfied me with horse-shoe tile; I want no more of them; they warp out of shape in burning and make joints too open. Other main drains are 3-inch tile, single or two abreast, or 4-inch each, according to the distance from the outlet, the number of small 2-inch drains they receive, and the quantity of water to be discharged.

All of the tile, except the 1000 pieces named, are sole tile, which are *the thing*. The ditches have all been dug and filled in by hand, tools used, common spades, ground sharp, long and short handled common shovels, picks, iron bars, and sledge. We find stone where the upper ends of the drains enter the uplands to cut off all springs that would enter the swamp land. The bottom of the ditches for the tile should be very true and smooth, without sags where the water would stand, and the joints of the tile to fit close by using a hammer or trowel if necessary. It is best, generally, to begin at the upper end of the ditches to lay, and lay the branches first, certainly, if as convenient, and there is water in the ditches. Pieces of refuse slate are nice where the branches enter main drains, to patch up bad joints, or, when you have to make curves in laying. When digging the ditches we threw the turf on one side, and all the other dirt on the other. All I have drained has been in turf. Before laying, have the tile in a line on top of the dirt, then one hand, with a corn-cutter, thin the turf to 1¼ or 1½ inches in thickness; another hand stands in the ditch, lays the tile, and packs the turf grass side down on the tile, breaking joints, and as tight as possible; use up all the turf. The man laying walks backward in the ditch. I throw in about three inches of dirt, carefully, and tread it down snug; the rest of the dirt is thrown in promiscuously and left to settle. In laying with sods and treading down the dirt at the bottom, the object is to keep the dirt from going to the tile with the water and filling them up; the water will readily leak through the soil into the tile, although the soil be tightly packed.

Some pieces of tile laid the first season, not thus tightly packed, filled up and were dug up and relayed. Fine sand in a loose state, or a hard pan dissolved, composed mostly of fine sand becomes quick sand, and is more apt to fill up tile than any other soil. Clay or loam soil, when there was much fall to the tile, might never do it, although the joints were somewhat open. In laying the tile where we were unable to get a hard bottom by wetness or looseness of the ground, we lay on a board.

Result on the soil by drainage. Some 8½ acres of this soil had been plowed in extreme dry times and seeded for mowing, depending upon open ditches for drainage. Those in two years would nearly fill up. The grass would die out by the excessive wetness and coldness, and be succeeded by wild grasses of poor quality and small quantity, and in a wet season there was danger of miring oxen in carting, and until it had been drained the crops never paid the expenses laid out. Last spring two acres plowed the previous fall were sowed early to grass seed, and yielded good three tons of handsome clover and herdsgrass hay. Four acres were plowed last spring and planted with potatoes, hoed once, a large yield, the best I have had in fifteen years on any soil. Two acres were sowed with oats and yielded largely. One-half acre to ruta bagas and cabbages and turnips, as satisfactory a crop as one could ask for; the turnips at the rate of 1200 bushels to the acre. The remainder of the land drained is not yet finished. The stumpy portion

is in pasture, where the bunches of wild grass have died out and June grass and white clover is taking its place, so that the past season it has been the best piece of the farm. Formerly it was only in a dry time that we could go on with oxen to pile stumps. The latter part of the season was quite wet here, yet we had no difficulty in harvesting the potatoes and turnips, in drawing forty bushels on a cart with a small pair of oxen, and now, and in the future, I consider that the soil will be sufficiently dry for roots, English grain or grass.

The tile cost when delivered on the premises $15 per 1000, for 2-inch; larger sizes in proportion, being one-third part rail-road transportation and cartage. The cost of drainage will not vary much from $35 per acre, for which I think the first two crops will pay, and the land now is worth, at least, $150 to the acre.

The tile discharge water all winter and all summer when not extremely dry, and discharge with a velocity in proportion to the height of water above the tile, and where the discharge is under the water in the outlet, bubbles up like a large boiling spring. Here, then, is one of the most difficult pieces to drain, thoroughly done, and it is the first in these parts. Many others who have begun and done a little, are satisfied with what they have done; many more are about beginning. Tile are to be made here next season, when one-third of the expense will be saved. Our richest land will be brought into cultivation, and the place of the bullfrog, water snakes, bulrushes, cat-tails and wild grass, hillocks, miasmas and pestilence, will excel the western prairies in productiveness, and our young men will not be so apt to catch the Western fever.

H. W. LESTER.

Rutland, Vt., Feb. 14, 1861.

For the New England Farmer.

LARGE OR SMALL CORN.

MR. EDITOR:—I noticed in reading the *Farmer*, an article headed, "Which to plant, large or small corn?" The writer goes on to show that the 12 rowed is the most profitable, and yields 30 bushels to the acre; he takes nothing into consideration but the corn shelled.

I am a farmer, and a miller also. I have had a chance to see 8 and 12 rowed corn brought to mill in the ear, and I can say that not more than one grist in ten comes to mill of the 12 rowed but what gets mouldy before the cob is seasoned.—Another consideration is the fodder. The 12 rowed stalks grow so large, the cattle will not eat more than two-thirds of them, while on the other hand they will eat every one of the 8 rowed stalks; and there is no trouble to cure the corn or stalks, which is quite an item. The 8 rowed will bear planting nearer together, with more stalks in a hill, and requires from 2 to 3 weeks less time to bring it to maturity than the 12 rowed, on the same kind of soil. I venture to say that I can raise as many bushels on an acre of perfectly sound corn, that is, shelled corn, as Mr. "Massapoag" can of the 12 rowed variety, and the fodder worth one-third more. It is not half the trouble to cover it, and it is better corn when shelled, for market.

P. D. P.

Shelburne, Vt., Jan., 1861.

CULTURE OF THE CRANBERRY---No. 1.

There are several things which distinguish this age in a remarkable degree,—such as the power of locomotion in transporting heavy bodies, or in celerity of motion, or the blessings conferred upon the world by the aid of chemical investigation, and what more immediately interests us as farmers, the desire to inquire and ascertain how far we may take the plants as they are presented to us from the hand of the Creator, and transform or mould them into articles of food, clothing, or shelter for man, or for the animals which he rears.

The potato presents an illustration. Once a wild, small, almost worthless tuber, but now large, fair, palatable, nutritious, and almost indispensable. The brittle, aromatic, and juicy celery, now ranked among the luxuries of the table, was once a small, tough, bitter plant, rejected alike by man and beast. The carrot, which enriches and gives color to cream and butter, still grows wild and worthless in some of our fields, and along the highways. It is now valued upon the table, and greatly so as a winter feed for stock, and especially for horses. The apple and pear afford another illustration, familiar to all, and so of many other plants common to our cultivation.

It is this application of mind to material things —this inquiry into the recesses of nature and the development of her secret resources, that distinguishes an age or a people, and gives it a marked significance on the pages of history.

Among the plants that have for some time been receiving attention, is the *Cranberry*. It is not a new plant, any more than the potato or the celery, for it is probable that it was the accompaniment of many a savory haunch of venison among the Indians. It is susceptible of great improvement, both in size and flavor, as we have seen one variety affording numerous specimens a full inch in length, by actual measurement, the flavor and color of which far surpassed those growing without culture.

The cranberry cannot, like the apple, be employed in many different forms. In an uncooked state it is tasted, but never eaten as food. As a sauce for meats, it is unrivalled, not only in flavor, but in its beautiful color, which ornaments the table as much as the fruit pleases the taste. In jellies, jams, marmalade, puddings and pies, no fruit known has a more delicate flavor; yet, though delicate, its flavor is lively, almost sparkling, and highly agreeable. This delicacy allows the sick to use it when most fruits could not be taken. We do not think its acid is that of the apple, malic, nor of the grape, *tartaric*, but is something more delicate than either, which, when better understood, will become a valuable restorative in many cases of loss of physical power.

Its more general use would tend to promote the health and good-nature of the family. In hotels, where the table is well supplied, it is now considered as indispensable, and at sea, is found to give a cheerful vigor to both body and mind, while it fortifies the system against that fell scourge of seamen, the scurvy.

Its value as a condiment, and as a nutritive article of food, is generally acknowledged; it is natural to our soil and climate; its culture is pretty well understood, and when skilfully conducted, the results are quite certain; it is easily harvested, stored and preserved; it is supposed to possess medicinal qualities of the highest order in some of the most painful maladies with which man is afflicted; these qualities cannot fail to give this fruit a *pecuniary* importance worthy of the consideration of every farmer who has lands and market facilities adapted to its cultivation.

There are three kinds, at least, of this fruit found in New England meadows, each of which has been brought under cultivation. They are,

1. The BELL CRANBERRY,
2. The BUGLE CRANBERRY, and
3. The CHERRY CRANBERRY.

They derive their names from their resemblance to a bell, to a bead, called a bugle bead, and to the cherry, which it resembles in form, size, and color. All these varieties may be found in this vicinity. The bugle,—the variety to which we have already alluded, where twelve berries measured a full foot in length,—is found growing in some of the low places in this vicinity, in beautiful perfection.

We are not able to say which of the three varieties is the BEST, if there is really *any* difference in their quality. They are all good.

The *Soils* best adapted to the Cranberry are our low grounds, what we usually call muck meadows, or swamps. It seems to need a soil that is constantly moist, but not holding standing water, during the growing season of the plant, and it is thought by some that it requires nothing for its perfect development but air and water, and a foothold in the soil. Where we have found the cranberry in its greatest perfection, we have observed a considerable portion of sand, either underlying the muck, or intimately mingled with the black humus, or soil. Indeed, sand seems to be necessary to a luxuriant growth of plant and fruit. What the special agency of the sand is, we do not know; whether it affords strength to the plant by its silicic acid, imparts potash, or acts underneath as a strainer, and thus keeps the plant moist, but not submerged, we are not able to say. Were it not that the *humus*, or black, decomposed vegetable and sometimes animal matter, is such an absorber of heat, we should be inclined to think the sand might act by storing up the solar heat during the middle of the day and imparting it back to the plants and the surrounding atmosphere during the night, and thus greatly equalizing the temperature through the growing season of the plant. This equalization would be important, because greater changes take place in these low grounds than on the high lands. Even in midsummer, in passing from a hill through a low piece of ground of some extent, we sensibly feel a change of several degrees, so that an overcoat would be agreeable when it would have been oppressive on the high land.

In an analysis of the cranberry by Prof. Horsford, of Cambridge, he found it mainly composed of water. In its ashes he found almost 45 parts were potash and soda. It seems evident, therefore, that although the amount of potash in the fruit may be small, it must be considerable where the aggregate of a productive acre of berries is so large. This may be one reason why the cranberry flourishes so well on the sea-shore, where alkalies abound. We know, also, that the potato requires a good deal of potash, and that it does best on new lands that have not been exhausted of that mineral by cultivated crops, and in meadows, composed chiefly of vegetable matter. The ample supply of potash to the plant seems to be another reason why muck lands are best suited to the cranberry.

In another article we will speak of the *Preparation of Soils for the Cultivation of the Cranberry.*

For the New England Farmer.

POMO D'ORO LESTERIANO,

OR THE NEW PERFECTED TOMATO.

Having noticed in the *Farmer* of the 2d a valuable communication from the pen of Mr. C. E. Lester, upon the cultivation of the tomato, referring to his new valuable variety, and having experimented with it the past summer, I herewith give you my experience in the cultivation of this tomato, compared with other kinds.

I obtained, and planted the seeds of Lester's Perfected Tomato in pots, the 20th of March, and placed them in the green-house, transplanting six plants into the open ground the 20th of June, at the same time placing six plants of the large early Red Premium Tomato, at the other extreme end of my garden. I manured, and served them alike through the summer. The Premium Tomatoes were much larger than the Perfected, when set out, but the latter soon outgrew the former, and ripened their fruit 16 days earlier. The quality of the fruit was superior, as described by Mr. Lester. Thin skin, very solid, large, and very prolific in bearing. I sent a dish of the tomatoes to the Essex County Agricultural Society, and obtained a premium for them; the committee pronounced them superior to any variety on exhibition.

JOHN S. IVES.

Salem, March, 1861.

For the New England Farmer.

PRODUCTS OF A SMALL FARM.

In New England, and particularly in Massachusetts, where there are so many manufacturing villages, and therefore good markets, there is a great inducement to cultivate a little land well, raise fruit and vegetables for market, and make better returns than those who cultivate more land under the old stereotype way of farming. In fact, most of our farmers have too much land, and too much of it poor. It should be divided among their sons, more capital expended upon it, and more money made. More refinement exhibited, less drudgery, family better educated in all respects; more time for social and intellectual improvement, and finally more happiness, which is only found in the enjoyment of labor under an enlightened and refined social system. The profit of farming is often discussed. I am decidedly in favor of rural life upon the farm, and think it the safest business I can follow; it brings the surest returns, and in it are all the elements of health, happiness and true independence. I have but a small farm, which I intend to take good care of. I propose to give you the products of ten acres in one lot. In this lot there are 80 young apple trees, from three to ten years old; a part of them were in bearing this season:

EXPENSES.

Paid for manure	$15
Drawing manure	4
Plowing seven acres	10
Harrowing and cultivating	3
Other team work	20
Work on the farm	120
10 acres, worth $1000, interest	60
	$232

PRODUCTS.

3½ acres grass, 6 tons hay, $10	$60,00
Rowen, 2 tons, $10	2[illegible],00
2 acres oats, 80 bushels, 50c	40,00
2½ tons straw, $5	12,50
1 acre potatoes, 150 bushels, 40c	60,00
1 acre Swedish turnips, 700 bushels, 25c	175,00
2 acres corn, 114 bushels, 75c	85,50
4 tons stalks, $6	24,00
Apples	20,00
1 bushel beans	2,00
Pumpkins	3,00
500 heads cabbage	20,00
¼ acre sowed corn	6,00
	$528,00
Expenses	$232,00
	$296,00

I used the manure I made, besides the $20 worth I bought. The oats were threshed and measured, the corn weighed, the hay estimated, the turnips all measured, 400 bushels sold at 25 cents per bushel, and the balance on hand, at a higher market. All the crops were carefully estimated, and many articles raised, consumed by the family, not counted. JUSTUS TOWER.

Lanesboro', March, 1861.

MEMOIR OF GEN. LYMAN.—We have before us a brief Memoir of the late Gen. THEODORE LYMAN, a great and good man—a great man, because he constantly exerted his good qualities to bless his kind. His heart was as expansive as the wants of his race, and his wealth continually flowed in gentle and unobtrusive streams to satisfy those wants. This Memoir is republished from Barnard's *American Journal of Education*, for March, 1861, and affords us several incidents of Mr. Lyman's life heretofore unknown to us.

For the New England Farmer.

TOP-DRESSING---FERTILIZERS.

MR. BROWN:—I notice a recent article in your paper from RICHARD S. ROGERS, upon the subject of top-dressing meadow lands. I agree with him in the importance of a better understanding of the subject. There is a great want of care in spreading manure, both on plain land and meadow. Two years ago I passed a farm as good as any in the county of Berkshire, and saw two or three acres covered thickly with manure ready for plowing; how long it had been spread I do not know, but as the weather was very drying, should judge that at least one-half of the value of the manure must have evaporated before it was covered with the plow. I have never gone into the experiment of Mr. Rogers, but I have tried spreading on both fall and spring, and have uniformly had the best success in spreading in the fall. Much depends upon the season, whether wet or dry. In Aug., 1853, I spread over about two acres with yard manure, the weather being too wet to make hay for a week, so that the manure was thoroughly soaked; the grass came on so that it gave me great after growth. At other times the weather has been dry, when I received no benefit at all from the manure. A different plan occurred to me a year ago last fall, that, instead of spreading clear manure it would be better to mix it with loam, making a compost, believing that the loam would prevent the manure from evaporating. I accordingly made a heap of about equal parts of some 60 loads, spread it on early in the spring to about three acres. The season being very dry, from April to July, it did not increase the grass very much, perhaps half a ton per acre, except on about one acre of very moist land, which gave me about three tons per acre! I also made a small harrow with nine or ten teeth; side five feet long, four feet wide, with knife teeth set straight forward to cut the turf. It was harrowed, perhaps five times over. We had very refreshing showers the latter part of August, so that the after growth was very thick and fine. Another summer I expect to see a great crop.

Another article from "R. M.," of Westboro', I think is to the point. Much is said about fertilizers; I should consider them, more strictly speaking, stimulants. Some twenty years ago, before guano was discovered, I took from under my barn, where the geese and hens had run freely for twenty-five years, three loads and spread on a meadow, in the spring; the growth was just about double for the first year; the next year there was no perceptible difference where the three loads were spread, and where nothing had been applied. I look upon it as operating like the guano, stimulating the soil to produce a great growth for one year, at the expense of the soil; so that if such a course was taken from year to year, the land would become impoverished, unless more or less yard manure was applied. A man, for instance, under the influence of brandy, would, doubtless, for a given time, do more work; but were he to follow up dose after dose with little or

no nourishment, he would soon be as much below par as he was above, after the first drink. Therefore, I say, brother farmers, make your own manure, and apply it in the way and time when you will receive the most benefit.

Stockbridge, 1861. S. BYINGTON.

EXTRACTS AND REPLIES.

HATCHING CHICKENS.

To what degree of temperature is it necessary the atmosphere should be raised to correspond with the heat of a hen's body while she sets? or in other words, to what temperature, (Fahrenheit,) is it generally thought necessary to raise the air by artificial means to hatch an egg? Secondly, is there, at present, any establishment carrying on the business of hatching chickens artificially? And if so, with what success is it done, and if not, what difficulties or objections are there to discourage such an undertaking.

Walpole, March, 1861. J. R. SANBORN.

REMARKS.—We cannot tell, precisely. Take a small thermometer and place it under a sitting hen, and you may easily learn. We know of no establishment carrying on the hatching business. A gentleman somewhere West recently attempted it, and after sinking two hundred dollars, states that he abandoned the enterprise.

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MANURES—AND A DIFFICULTY.

I am going to farming for myself, this year, and as the hay was mostly sold off from my place last year, I have got to buy manure.

The Baker and Jarvis Island guano is advertised in your paper. I would like to know if it is as profitable to buy as any? The "Muck Manual" speaks of muck and potash as a valuable manure. Pearlash is cheaper here than potash—will it do as well?

A part of my land has a dark, moist, heavy loam, and some of it a light and somewhat sandy loam. I intend to make a few experiments, and will give you an account of them hereafter, if you would like. ABNER L. BUTTERFIELD.

West Dummerston, Vt., 1861.

REMARKS.—No questions are more difficult for us to answer than those which relate to manures. They are used under so many different circumstances, and in many instances with so little skill, that what gives a satisfactory result in one case is equally unsatisfactory in another. There is one infallible rule, however, which is of universal application, viz.: Plant corn on good land, and apply not less than *six cords* of manure to the acre—which would be *eighteen* ox-loads, of about *thirty-five* bushels each. To this should be added to the hill, while planting, a small handful of guano made from the hen-droppings, or some other domestic fertilizer, recipes for making which we have already given, and which every farmer may have. We have no doubt but that American guano, superphosphate, potash, pearlash, plaster, &c., may be profitable when moderately and judiciously used. After liberal manuring, however, there is nothing we should more earnestly recommend, than a handful of wood ashes, either leached or unleached, applied to the hill at the first hoeing.

If a farmer wishes to plant an acre and a half with corn, and has but eighteen loads of manure, he will be very likely to get more corn by applying all the manure to *one acre*, than by applying it to the whole. Sow the half acre with oats, and turn them under as manure.

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A GOOD WASHING FLUID.

I noticed in a recent *Farmer* an inquiry for a washing fluid; I will give one which my wife has thoroughly tested, and finds that it will save much of the labor of washing—to say nothing of the saving in other matters, such as "strained backs," "cross words," "short dinners," &c, common to washing days.

Take one pint spirits of turpentine, one pint of alcohol, two ounces of hartshorn, one ounce of gum camphor; shake well together; then to one quart soft soap add three table spoonfuls of this mixture. Wet the clothes first, then soap them with the mixture, lay them in a tub, and pour warm water on them; let them remain half an hour or more, then wring them out of that water, soap them again and put on to boil; then finish by rinsing, &c. C. M. F.

Cabot, Vt., March, 1861.

REMARKS.—Mrs. "Experience" will please observe the above, and be comforted.

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SEEDING WITHOUT A GRAIN CROP.

I would like to inquire whether it would be profitable to seed down land with herdsgrass, clover and red-top without grain, and if I should get a crop of hay the first year; and if so, should the seed be sown early or late in spring?

Andover, N. H., March, 1861. A FARMER.

REMARKS.—By sowing early, a light crop might be obtained, if the season proved a moist one.

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POULTRY RAISING BY A LITTLE BOY.

I read the account of poultry raising by Mr. "J. B.," in the *Farmer* of last week. I send you the account I kept with my Black Spanish fowls from Jan. 1, 1860 to Jan. 1, 1861. I had 8 hens and 1 rooster. During the year I bought 7¼ bushels of corn at $1,00; meal and meat 75 cts.; father gives me the refuse from the kitchen. In the course of the year my hens have laid 70¾ dozen eggs, that I sold to father, charging him the price each week that you put down in the *Farmer*. My eggs come to $13,79. I raised 8 fowls that I sold for $4,00, and 7 more which I keep. The account will be something like this:

Cost of keeping 9 fowls one year	$8,00
Eggs they have laid "	13,79
Chickens sold	4,00
Chickens kept	3,50

this leaves $13,29 in favor of the fowls.

Malden, Feb., 1861. C. O. GWYNNETH,
10 years old.

For the New England Farmer.

FARM JOURNAL AND FIELD BOOK.

I had occasion, not long ago, to refer to the *American Almanac*, a very valuable publication, by the way, of 1833, and I there found an article of considerable length, giving extracts from the writings of WASHINGTON upon agricultural matters, embracing his thoughts upon various farm topics, plans for a rotation of crops, suggestions for the management of an estate, treatment of manures, &c., and concluding with brief extracts from his Farm Journal, showing how methodical and systematic he was in every part of his farming operations. These extracts were generally brief, just showing where, and what work was performed for the day, with a reference to the state of the weather, &c. I mention this to show that WASHINGTON, as the most noble American farmer, thought it of great importance to record the daily transactions of his estate, and as a sort of introduction to a few remarks upon Farm Journals. Of farm accounts, the debtor and creditor, I do not intend to write, but of regular journals or records, and also of a "Field Book," I propose to say a word.

Every intelligent farmer who is aiming for the advancement of his occupation, should have a plan of his farm, drawn to a scale, and so marked out, that each field, brook, meadow, hill, and forrest growth can be designated and observed at a glance. This plan need not cost a great sum; it is not necessary that it be nicely executed, as a piece of artistic skill; but if the farmer can use a rule, compass and pencil, he can draw a plan himself, and one which will answer every purpose. This plan should be so complete, that the fields may be numbered thereon, and room left for certain figures or letters to be made upon it, which letters refer to notes, remarks or other explanations in the Field Book. The Field Book is a small volume which the farmer carries with him, and which he should never be without. Passing over some part of his farm, he notices something which must be done immediately. A brief note of it is made on the spot in the Field Book, and it is attended to at the first opportunity, but for which, it would have been forgotten, and therefore remained unaccomplished.

The map of the farm shows the owner its situation, the lay of the different fields, the courses of brooks, the direction of fences, and the position of the whole estate. The Field Book is the key of explanation. It tells the character of the soil in a given locality; it shows what particular crop is now growing in a certain field; it points to where there is good fence or poor fence, enclosing pasture or meadow; and contains the suggestive notes for improvements to be made upon the farm, both present and prospective.

To give a more perfect idea of the use and importance of a Farm Map and Field Book, let us take a glance at both. Upon the map, at a given place, we notice, *d*, 3; and by reference to the Field Book the same letter and figure is found with this note of explanation.

"At *d*, there are about ten rods of poor fence which must be re-built the present summer. Cut poplars at 3—the figure 3 having reference to a thick growth of poplars as shown on the map—in June, and as soon as harvest is over, have the fence built of poplar-rails, using the stakes and bunks which Robert made this spring, and which are now in the open shed. May 7, 1859."

It is often the case that farmers wish to make changes in their fields, turning out certain ones into pasture, making divisions in others, and also making other improvements, such as clearing them of rocks, or putting in drains. Work of this description can be all planned within doors, provided the farmer has a map upon which he can look, and when his plans are matured, the notes can be made in the Field Book, and put into operation at the first seasonable moment. So, too, if the farmer is necessarily absent for a number of days or weeks, he can arrange his work in advance, make notes for the foreman to carry out, and the whole labor of the farm would go on in his absence, as if he were present to manage every job himself.

The Field Book is the farmer's *daily*, which notes down events as they occur, and makes suggestions for future improvement; the Farm Journal answers to the stately *weekly*, where opinions are advanced, theories discussed, reflections written out at length, and all matters of importance recorded for future reference.

A suitable book for a farm record, is one made of foolscap paper, or better still, such blank books as are for sale at most stationers, comprising some 200 or 250 pages, and which can be bought for less than a dollar. These books will last a year or two, perhaps even longer. The heading of each page should be something like the form here given.

1861. FARM JOURNAL. 23.

The number at the right refers to the page, and on the page opposite, corresponding with the year, should be written the month. The records suitable for this farm journal are all those which come within the province of the estate, accounts of the work upon the farm, with records of the success or failure of certain experiments, state of the weather, fall of rain and snow, appearance and disappearance of birds, insects, &c., time of leafing out of common shrubs and trees, &c., &c.

Most farmers can easily find time for the keeping of such a journal, if they are satisfied of its importance, and only give attention to it. At times, more can be written than at others, but a record should at least be made once a week, embracing the more important topics of the Field Book.

The author of this sketch writes from actual knowledge of the subject, and is therefore preaching what he practices. Besides a rough map of his small farm, and various Field Books, now not of so much value, that their chief contents are copied into the journals—he has six volumes of a private farm journal, each volume of large foolscap size, and embracing from two to three hundred pages. The motto of these volumes I suggest for others:

> "Count that day lost, whose low descending sun
> Views from thy hand no worthy action done."

Brookdale Farm, 1861. S. L. B.

REMARKS.—Everything that tends to bring farmers to the opinion that their business is worthy of systematic management, is a benefit to

them, because such management will *increase their profits.* We cannot claim such a nice system as our correspondent recommends, but can inform him that we have a map of our farm, and a daily record of *thirteen years'* continuance.

LEGISLATIVE AGRICULTURAL SOCIETY.

[Reported for the N. E. Farmer, by Thomas Bradley.]

The twelfth meeting of the series of this society was held at the Representatives' Hall on Monday evening, but in consequence of the unfavorable weather the attendance was not so good as usual. The meeting was called to order by Charles L. Flint, Esq., who introduced Allen Putnam, Esq., of Roxbury, as Chairman of the evening.

Mr. Putnam, on taking the chair, announced the subject for discussion, "The management of the Dairy," and said that he was somewhat surprised at being selected to preside, as it had been some years since he was actively engaged in farming pursuits, and that being the case, he scarcely considered himself fit to preside, although possibly he could hint some justification for the abnormal selection of the committee, in the fact that the consumer of butter, who goes into the market for his annual supply, may have a better opportunity to determine whether the quality of butter, as a whole, which is offered for sale from year to year, is improving, or stationary, or deteriorating, than he who supplies his table from his own dairy room. It is not incredible, said the speaker, that buyers and consumers are a little more expert and successful in exposing faults and blemishes in products of any kind than are the producers and sellers. Butter makers may find consumers better posted and more out-spoken as to the faults of their work than they are themselves, and perhaps, said he, this was the object in selecting the chairman of the evening.

After alluding to the difficulty he found in getting butter at the present day to his taste, the speaker said it might be attributed to its being difficult to suit him, but while he admitted the charge might be true, he meant to express a firm conviction that the general quality of butter offered for sale in the Boston market has been deteriorating. This position, said he, may seem bold and unwarrantable, and I presume there is more thought and more supposed science brought to bear upon butter making now than fifteen years ago, still I charge that the butter of New England is not as good as it was then.

Different cows of the same breed, different breeds of cows, different pasturage, different kinds and qualities of dry feed, different cellars or dairy-rooms, different atmospheres and the like, each, said he, marks, in some degree, its own peculiarities upon the butter produced in connexion with it; but these, and perhaps some other points, are presumed to be now as favorable in New England as at any former time; at any rate, it is presumed that our breeds of cattle have not deteriorated, our pasturage and our climate have not altered much, dairy-rooms, as a whole, must be as airy and as good in every way as they were ten years ago, therefore these cannot account for any marked change.

Where, therefore, asked the speaker, can we find the causes of the change? Is it in the lessened labor and skill of the dairy women, who work over and pack down the butter after it is taken from the churn? Is it possible that the present generation have failed to come up to their mothers in butter pains-taking and skill? While many of them leave a great deal of butter-milk where it variegates the color and injures the flavor of the butter, the speaker said he would hold the women innocent until they were proved guilty.

He then alluded to the churn, and spoke particularly of the thermometer churn—the popular churn of the day—12,000 of which he said had been annually sold by a single house in Boston for the past few years, and he said it might fairly be presumed that from 30,000 to 40,000 were now in use in dairy-rooms which forward their products to Boston market. Mr. Putnam said he would state a few facts that had turned his attention to the action of the different varieties of churns, and the quantity and quality of butter they will severally produce from the same quantity and quality of cream.

Some eighteen months since, said he, a Mr. Wilson, then of New York, called on me, and introduced to my notice a patent churn of his own invention. His account of its working excited my curiosity, and I proposed to test its merits. We went to the warehouse where his churn was, and then procured two cans of cream from a milkman, which was not, of course, of the richest quality, and the whole was poured into a new dasher churn and then well stirred. Alternate quarts were then poured into a thermometer churn, and the air-pressure churn of Mr. Wilson, the temperature in the thermometer churn was made right, and the two were started simultaneously. The butter came quick enough in each churn, but upon taking it out of the two a difference in color was very noticeable. The air-pressure gave the deeper and better yellow, but the quantity was not much different, so far as we could notice with the rough scales used.

The speaker then alluded to another trial of the two churns where the advantage of the air-pressure churn was still more marked, both in quantity and quality, and after submitting the

butter produced by each churn to several parties, they had all conceded that made in the Wilson churn to be the best. He felt sure the difference in the quality of the butter was in consequence of the difference in the churns, the deeper color of that produced in the Wilson churn coming obviously from the increased amount of oxygen which the compressed air brought in immediate contact with the cream. Milk, said he, is white, but the upper side of cream is yellow. It has taken its color or coloring influence, from the atmosphere in contact with it. The air-pressure churn brought more than the natural atmosphere in contact with the coming butter, and increased its yellowness.

He accounted for the increased quantity produced by this churn over the thermometer churn, from the same quantity of milk, by the probability that the pressure of atmosphere upon every particle of cream caused each butter particle to separate from the milk, or burst its enclosing sack, and thus obtained all the butter from the milk. He said that the grain of the butter was better when produced by the Wilson churn. The thermometer churn, said the speaker, made of zinc, brings the cream and butter in contact with that metal, and it is worthy of inquiry whether the metal has or has not a deleterious action upon the butter. The facilities for raising the temperature by putting hot water around the body of the churn, it is necessary to use with caution, for unless the operator is very particular, and a patient waiter, he will pour in so much hot water that by the time he has been churning five minutes, his hot water and dasher combined will have put the temperature in the churn ten degrees higher than he intended it should be, and Mr. Putnam said he thought that one of the principal causes of poor butter is churning it in contact with metal, and under an undesigned and unsuspected height of temperature.

From another experiment that had been tried, he had been led to consider whether it would not be possible by putting cream in an air-tight vessel, and pumping in repeated supplies of compressed air, to produce in butter the color to be desired. The speaker said he strongly inclined to the belief that much could be done in that direction. When the feed, the weather and the dairy-room are all right, the atmosphere, without condensation, may give a perfect color to butter, but there are times when nearly all butter-makers would like a richer hue.

Mr. FREEMAN WALKER, of North Brookfield, spoke of the great interest he felt in the subject of discussion, as, within a few days, butter dealers had told him there was scarcely a good tub of butter to be had in the Boston market. The material, said the speaker, is the same, yet the price for good butter was now from 20 to 25 cts., while the greater portion in the market was dear at half that price, and he could not name a more objectionable article of diet than bad butter. Some time since he had used both the old dash churn and the barrel churn, and he considered the first named the best, and although it required more labor to produce the butter, yet this was compensated for in the increased quantity of butter obtained. The farmers in his neighborhood were mostly engaged in cheese-making, and at a future part of the discussion he proposed to speak more particularly of this part of dairy farming.

Mr. WILSON, the inventor of the air-pressure churn, then gave an interesting description of his churn together with the circumstances which led him to experiment in the matter. He said the air-pressure churn was valuable as a churner of milk as well as cream, as a great deal of time was saved in the operation, as by the present process it requires an hour, while by the new churn it could be done in eight or ten minutes. He would advise farmers to churn their sweet milk, which coming from the cow about 98°, is ready to churn when it falls in temperature to 60°. In New England, he said, there were 50,000,000 lbs. of butter produced from 180,000 cows, and he was satisfied that more $5,000,000 were lost every year to farmers in the depreciation of their butter.

Mr. FISK, of Shelburne, had had some experience with cows, and he was astonished to see the difference in butter. He had no interest in any churn, and he cared little by what kind of churn butter was produced, yet he thought that the cows had more to do with the quality and the color of butter than the churn. He had ten cows, one of which was a Native, never having been guilty of having been crossed, and with precisely the same feed as the others, she always gave excellent yellow butter and milk, while another he had gave butter as white as lard, and thin poor milk. He insisted that the greatest cleanliness should be observed in the dairy so as to keep the milk sweet as long as possible. The great object should be to get out the buttermilk entirely and work it well, and there was no trouble in getting good sweet butter, which with the dairy women in his section was worth from 25 to 28 cents per pound. He objected to artificial coloring, but preferred the carrot coloring to the practice of giving the cow cotton seed meal. He said the farmers in his neighborhood found that they could make 2½ to 3 lbs. of cheese to one pound of butter, and if they could sell this from 10 to 12 cts. per pound, it would seem as though cheese-making would be more profitable, yet it must be allowed that in this case a most excellent feed for pigs, the sour milk, would be lost.

Mr. HOWARD, editor of the *Cultivator*, said

that he could not agree with the statement in regard to the poor quality of the butter brought to the Boston market, as his observation both in the market and at the exhibitions of the various agricultural societies had led him to think that the butter was improving. He could not believe the great principles of butter-making were in any patent churn, as his opinion was that they lay behind this. He thought a great deal depended on the temperature, but he was satisfied there was a great amount of ignorance in making butter, and among those so ignorant, salt was considered a remedy for most bad butter, but this was not so, and in many parts of England butter that had been salted was not allowed to be sold, and there, butter was made so well, that it would keep well for months without a particle of salt.

Mr. WILSON described the method of making cheese on the Western Reserve in Ohio. In the large dairies he said they invariably churn their whey and sell it in the New York market, where it is used for pastry. In some places farmers make butter from their fresh milk, and then from the refuse make cheese, which of course is of an inferior quality, but brings a fair price in the market.

Mr. BUCKMINSTER, editor of the *Ploughman*, said that cows in New England averaged 5 lbs. of butter per week, while some produced as much as 10, 15, 17, 19 and 21 pounds. He thought much depended, in the quality of the butter, on the breed of cows, and the food given them. He thought the reason that there was so little good butter in the market was that the more wealthy classes contracted for their butter before it went into the market. He did not know how the air-pressure would operate, but he was satisfied that a churn would yet be introduced, together with other improvements, that would render unnecessary the working of butter by hand.

Mr. WALKER, of North Brookfield, said that whatever might be said of butter, cheese had not deteriorated in quality. He had been, for many years, on the committee on cheese at their county agricultural show, and when he first held the office he was astonished to find so many flavors and different smells, but now there was a greater similarity in the quality and smell; yet there was still much to learn. There was one trouble in the want of uniformity in the quality of cheese and that was that a man who made cheese worth fourteen cents per pound, cannot get more than twelve and a half cents for it, because it is in bad company. He thought that either the quantity or quality of the rennet caused the trouble in cheese.

FEED BONES TO THE HENS.—If you take fresh bones from the kitchen, and with a sledge, on a rock, or any natural or artificial anvil, pound them up into small pieces, hens will eat them ravenously and not only will they digest the bones and make a better manure of them than can be made in any other way, but they will be themselves greatly benefited by them; they will lay throughout the season with much greater regularity than otherwise, and will fatten on the marrow within, and the fat and muscle will adhere to the bones.—*The Homestead.*

For the New England Farmer.

FARMING OPERATIONS MADE PROFITABLE---No. II.

To ——— ———.

DEAR SIR:—Having in a former communication answered your first and second interrogatories, I now proceed to those in your third section, which, with the prefatory statements, are as follows:

"I always had a fondness for farming, but circumstances in early life turned me into other pursuits. At length I have resumed my favorite occupation, and desire to make a pleasant rural home. I have means to farm it as I please, but still, as a business man, and on principle too, I wish to so manage as to farm for a profit and set a useful example to others. I am willing to make any judicious investment in the improvement of the soil itself that will as a practical business operation pay a fair return. With this brief preface, I would say that the tillage land of my farm has been rather superficially cultivated, and the surface soil is a good deal worn. I have not much practical experience in regard to soils, but it has seemed to me that the subsoil should be taken into account in judging of the character and capacity of land. I have examined the subsoil in various places, and find it to be mostly a stiff and close brown or yellowish loam, and usually packed down hard. How shall I proceed with this land, what kinds of plowing do I want, how deep shall I plow, how cultivate afterwards, and in short, what plan of improving husbandry shall I pursue to make it productive?"

I am pleased to learn that "at length you have resumed your favorite occupation; and I certainly wish you much enjoyment in its pursuit, and every success in making for yourself "a pleasant rural home." How much deep meaning those sweet words convey! What can be more charming, or refining to character, than "a pleasant rural home," amid the lovely and grand and improving scenes and influences of nature, and with the peculiar means and incitements it affords for the cultivation of the intellect and affections. What earthly influences more potent than these to promote that virtue and intelligence which emphatically fit one to be a worthy citizen of the Republic, and a lover and firm defender of his country.

The ends which you propose to yourself in farming are certainly most commendable. There is much sound sense in the wish you express to make your farming a judicious business operation, and in this respect a good example for others to imitate; and when a man has arrived at the conclusion that he is willing, as you express it, "to make any judicious investments in the improvement of the soil itself that will, as a practical business operation, pay a fair return," he has struck the very key-note of successful farming. This is a much wiser course to pursue than that which demands the uttermost farthing that can be wrung from the farm, to be sequestered from it and invested at interest or in matters

outside of farming, leaving the land nearly or quite unrequited for its efforts at production, and at length a poor run-down farm, worth but a fraction of what it would have been by liberal usage, either to keep, or to bequeath to heirs, or to sell.

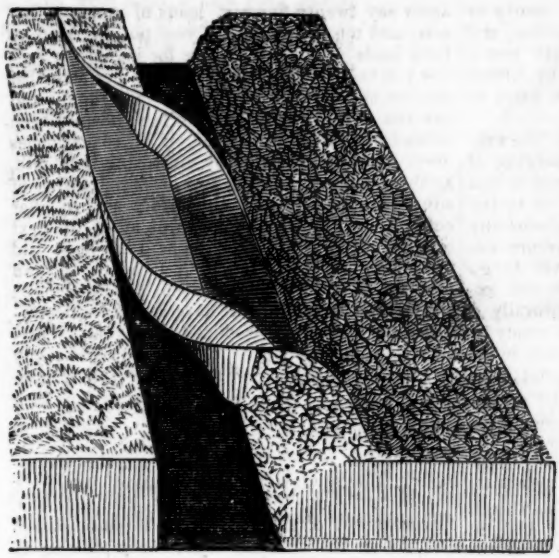
You are correct in the impression that "the subsoil should be taken into account in judging of the character and capacity of land. Land is to a considerable extent valuable in proportion to the character and quality of its subsoil. Almost any land can be brought up to a certain medium degree of excellence. But when you wish to go beyond that, you will find some trouble and expense in doing it with land that has naturally a poor subsoil. Land with a loose, coarse, sandy or gravelly subsoil quickly feels the parching influence of hot suns and dry weather, does not hold fertilizing matters applied to the soil very well, and when laid down to grass does not last long in a highly productive condition. It may be improved, it is true, but it is not easy by ordinary means and methods to carry it beyond a certain fair medium degree of excellence. Land with a subsoil containing qualities poisonous to the roots of cultivated crops is quite difficult of a high degree of improvement. But land with a strong, unctuous, fine-grained subsoil of loam or of clay loam, that holds fertilizing matter well, and on suitable exposure to the atmosphere slakes or disintegrates willingly, so that it is susceptible of a fine mellow tilth, may be improved rapidly and to a high order of production, and that without extraordinary means or expense.

From your description, I judge it not unlikely that you have a better farm underneath than that on top which has become so worn by shallow tillage. Such a subsoil as you describe, brought to the surface by deep plowing, and enlivened by atmospheric influence, high manuring and thorough cultivation, and mixed with the older surface soil, will make you a deep, friable soil, and superb tilth of land, producing greater crops than the land ever bore by shallow tillage, even though well manured, indeed even greater than when it was new from the stump. I can show you instances where this deep kind of tillage has so increased the products of land as to make it necessary to increase the barn storage very much. A deeply-worked soil has several advantages over a shallow one; it better withstands the peculiarities of a too wet or too dry season; it is easier to till in after cultivation, from the greater depth of mellow earth thus induced; the roots of vegetation have a stronger hold upon the soil, and the crops standing firmer on the ground, are not so easily injured by winds and storms; the manure may be suitably inclosed in mellow earth near the surface, where it is more active in its effects on soil and crop than though it had to be turned under the sod or else left on top, as would be the case by shallow breaking-up; subsequent tillage mixing the manure through the deeply-mellowed soil it has a greater and more lasting effect upon the land; and when the land is laid down to grass, it holds out longer in productive mowing, because the roots having a deeper range, do not so soon become entangled in a web near the surface, and the sod is not so soon "bound out."

With such a subsoil as yours, you may at once plow at least eight or nine inches deep, where you apply say twenty-five cart loads of compost per acre, and ten inches deep if you put on thirty to forty loads. If your facilities for manure will allow you to give the land forty loads per acre, that amount applied will improve the land rapidly and pay you well. I suppose your land has not been plowed heretofore more than six or seven inches deep. You will therefore by increasing the depth, as above named, turn up two or three inches of subsoil to mix with the old surface soil by after cultivation. At the commencement of the next rotation of crops, or after the land has been laid to mowing and needs breaking up again, you can plow ten to twelve inches deep, if you choose; and by this time you will have secured a deeply-worked soil that will produce to suit you. Wherever your subsoil is poor, or inclined to be sandy or gravelly, however, and the surface soil is loose and hungry, the process of deepening the tilth must necessarily be more gradual, bringing up not more than an inch or so of the lower soil at each rotation of crops, and manuring that generously. Good judgment must preside over one's operations in this direction, and the particular circumstances of the case in hand must temper and govern the action. Where deep plowing is to be practiced, it is usually desirable to do it in the fall, and give the upturned subsoil the benefit of exposure to the action of the weather till the following spring. The common grub-worms and the cut-worms are a good deal disturbed and cleared out of the land by late fall plowing. But fall plowing is not absolutely requisite, and if convenience were better consulted by plowing in the spring, it may be done then with success.

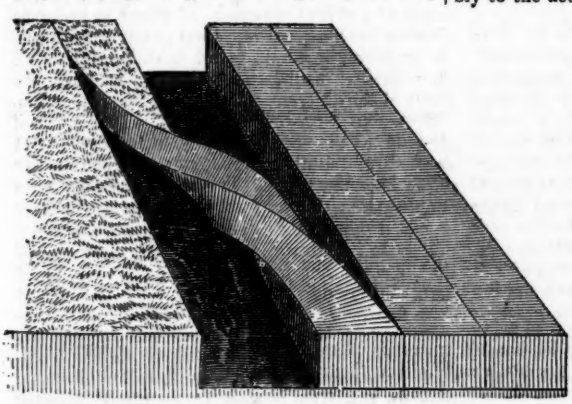
You ask about kinds of plowing. This short inquiry might well demand an entire communication for a reply; and having devoted considerable thought and experiment to the science and practice of the thing, I could give you a pretty full dissertation upon it; but I must be brief. There are four principal kinds of plowing, which I will barely glance at, for convenience illustrating them with cuts, because they will help to convey to you, through the sense of sight, what it would otherwise take many words to describe intelligibly. Let me observe in passing, that the mould-board of the plow is a perfect and beautiful mathematical problem, and when understood and fabricated accordingly, it is capable, in the hands of a skilful plowman, of about as accurate plowing as these cuts represent; and furthermore, the problem, or mould-board, is susceptible of all the requisite modifications of form to meet the wants of the different soils and modes of plowing.

SOD AND SUBSOIL PLOWING.—This kind of plowing, as the accompanying cut indicates, and as you are, doubtless, already aware, requires two plows upon one beam. The forward or skim plow should take a depth of not more than two or three inches, dropping the sod accurately into the channel, grass side down; and the rear plow should lift the remaining depth or under soil, raising it high, and laying it handsomely over the sod or skim furrow-slice and well matched up to the previous furrow, breaking the soil well in the act, and leaving a clean channel behind for the reception of the next furrows. When a well-constructed plow for this style of work is accurately adjusted as to the line of draught, and held so as to cut a uniform width and depth, and turn up the rear

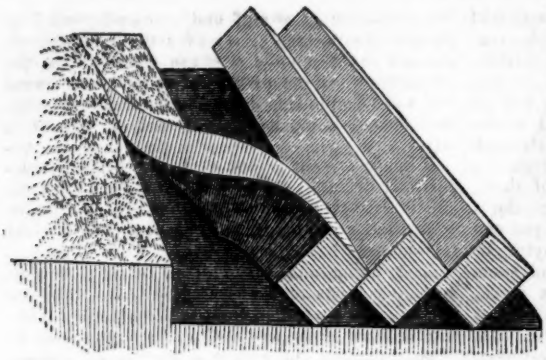


furrow-slice to meet fully the preceding one, as represented in the cut, the upturned soil is laid over in a remarkably light and pulverized condition, making a very level and finely cracked and opened seed-bed or tilth, superior to what can be done with any other implement yet introduced, and indeed superior to what the most accomplished spadesman could do in grass land by hand-labor. For the deep breaking-up of sod land, I would recommend you to employ the sod and subsoil style of plowing, on all such of your fields as are free enough of obstructions, and have sufficient regularity of surface to admit of the use of the double plow. Deep plowing is done with lighter draught to the team by this mode than by any other, because you can plow quite a narrow furrow in proportion to depth—say ten inches deep by eleven or twelve inches wide, while by other modes you would be obliged to carry at least from a third to a half more width than depth to turn the furrow surely.

Flat Furrow Sod Plowing.—For the breaking-up of bushy, rooty or uneven pastures, or any other grass land when there are too many obstructions, or the surface is too rough, or the sod is too stiff and rooty with wild or swamp grasses for the safe and effective use of the double plow, the single or flat-furrowed green sward plowing is the better style. The accompanying cut shows you at a glance the proper flexure and movement of the greensward flat-furrow-slice. For perfect plowing, with the lightest practicable draught upon the team, the furrow-slice should have an exact mathematical curvature and equality of twist throughout its entire passage over—as is represented in the cut. It should be the effort and pride of the plowman to be able to adjust his line of draught, or his hitch to the plow, so as to have it meet the peculiarities of the movement of the team — no two teams hardly ever drawing a plow exactly alike — so that his plow will readily take the precise right depth and width of furrow and hold easily in it, and so that he can perfectly and instantly control, or vary the bias of the plow, to meet the peculiar lay of the land anywhere, and bring the furrow-slice over handsomely into its place, and preserve the perfection of his furrows. These little tricks and arts of the true plowman's trade should be learned by every one who pretends to hold a breaking-up plow, and surely, no good farmer can consider them beneath his attainment. For your rough or unsubdued sod land, you will do well to plow the flat sod furrow, using a plow of sufficient strength and capacity for a team of four horses, or oxen, when required, and carrying a depth of furrow of eight to ten inches, in good style.

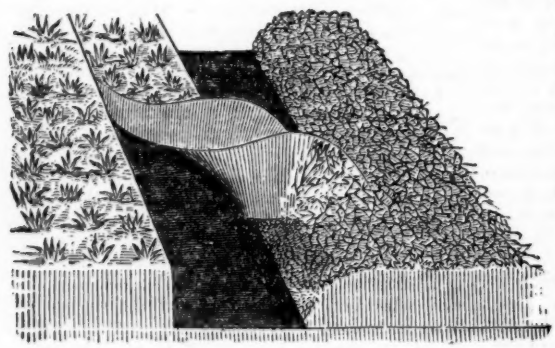


Lapped Furrow Sod Plowing.—The annexed cut shows you the proper movement and position of the lapped sod furrow. This is a style of plowing much practiced in Great Britain, and in some sections of our country where the soil is a stiff clay. As the cut shows you, there is a little air space, or drain, under each furrow-slice, and the projecting angles of the surface of the plowed land present the stiff clay soil favorably to the action of the harrow or other surface-working instrument, for the raising of a fine tilth or mellow seed-bed. To execute this mode of plowing in perfect style, the furrow slices must not be cut more than one third wider than they are deep, for if they are, they will not stand at a steep enough inclination, or rather at an angle of forty-five degrees, which is the best inclination. The usual proportions of furrow-slice among finished plowmen are about. 6×9 and 7×10 inches. For a new country, where the land has not yet become cleared of obstructions nor its surface much smoothed, this is a difficult style of plowing to execute well, and indeed it is better adapted to an old than a new country. For plowing more than seven inches deep, the sod and subsoil style of plowing



is preferable, even in clay land, being easier of good execution, lighter in draught, and requiring less width of slice than even the lapped style, and therefore making a finer tilth of the clay.

STUBBLE OR OLD GROUND PLOWING.—The annexed cut shows you the proper style of stubble or old ground plowing. The furrow slice should have a short, decided twist, be raised high in turning, for the more effectual covering in of the stubble and other trash, and be turned quickly and strongly so as to force the soil all over to an inverted position, breaking it fine in the act, and leaving a clean channel for the reception of the next furrow. This is the kind of stubble plowing you want. I have seen stubble plows at work of



such construction—raising the earth so high, turning it so forcibly, and withal, in such a sort of spray from the rear of the mould board—that you might lay down a full-sized bundle of straw or stalks, and passing by it with the plow cover it entirely out of sight with a single furrow. You can readily see on comparing the cuts, that the long, gradual, easy twist of the greensward furrow-slice is not adapted to good stubble plowing, nor is the short abrupt twist of the stubble furrow-slice at all suitable for easy, handsome and effective greensward plowing. Each requires its own peculiar form of plow to produce the best effect.

You next ask how to cultivate after plowing, and in short, what plan of improving husbandry you shall pursue to make the land productive. After the deep plowing, and just before planting time in spring, spread your compost manure upon the plowed surface and turn it in four or five inches, deep with a light plow gauged to the right depth by a wheel on the beam. Plant the land with corn or other hoed crops. If you have leisure after harvest in the fall, and if not, then in early spring, run a heavy harrow over the field, once in a place, and straddling a corn-row each time, pulling down the corn-hills and scattering the stubs so as to facilitate their complete burial out of the way. Plow the ground preparatory to seeding it, turning it an inch or two deeper than you did in plowing in the manure, so as to bring the manure near the surface, and still with an inch or so of earth above it to protect it from loss. Then stock the land to grass, with grain. Wheat and barley are the best grains to seed with, as the grass is less liable to be smothered by those crops than with oats. But if oats are a more profitable crop to raise, then stock with that grain, sowing, however, not to exceed two bushels of oats per acre. They will then tiller out enough from the root to grow all the seed-bearing stalks you need for a good crop, or that will be well for the young grass, and yet there will be room on the surface of the ground for the grass to get a sure foothold. I have repeatedly seen from five to fifteen stout seed-bearing stalks growing from one seed oat, where not more than two bushels of oats per acre were sown, and have raised large crops of this grain from thin seeding—the oats exceeding the standard weight two to five pounds per bushel. But however that might be, it is an important object to obtain a good catch of grass, and quite a money loss to fail in that particular.

If you would like to improve more land annually than you care to plant, and can devise means for enriching more, then plow up grass land with a deep furrow in August, manure on top of the furrows with fine rotten compost, harrow in the compost, and seed at once to grass, with or without a crop of winter wheat or rye, as may appear to you best.

If the land is not subject to standing water at any time, and is a little rolling withal, you may perhaps succeed in raising a fine crop of wheat. If a grain crop is to be taken off the land, spread a heavier coat of manure than if grass seed alone is sown. Fifteen to twenty loads of manure for grass alone, will be as good to the land as twenty-five or thirty loads if a grain crop is taken off. Sow only herds grass and red-top in the fall or in August, and put on clover early the next spring

In connection with your abundant supply of muck, you will find your account in making all the manure you can profitably to mix with it, thus increasing the compost heaps. Study to find ways for feeding out the products of the soil upon the farm, so as to get about as good returns for them in the growth and improvement of stock, the wool, meats, dairy products, &c., as though they had been sold off for cash. Thus you will give back to the farm the manure its crops can make, increased withal two or three

times in quantity, by judicious mixtures with it of your muck and any and all other available vegetable or earthy substances which contain fertilizing qualities. Where one has capital, as you have, he will see times when he can even buy oil meal or some kinds of grain and feed it to his stock at a profit, besides enhancing the strength and activity of the manure. If such opportunities occur, you are able to take advantage of them, and thus in turn increase your own farm-products in these articles. With your capital, too, you can take advantage of times and seasons, buying or selling stock, &c., at the right time, and some years feeding more, and other years less stock, according to circumstances. Even a small floating capital to use at will in farming, is oftentimes a decided help towards success in the business, making perhaps the difference between a profit or loss on a given operation or crop.

In another communication I shall answer your remaining inquiries. F. HOLBROOK.

Brattleboro', Vt., March 5, 1861.

EXTRACTS AND REPLIES.

COPPERAS AS A DEODORIZER.

In your paper of March 16th, in answer to your correspondent's inquiry in relation to his manure heap, and what remedies to prevent waste by too much heating, you recommend, if he has not other remedies at hand, to sprinkle it well with copperas water. I have formerly used copperas water by the recommendation of agricultural chemists, as a deodorizer, in vaults, also, to prevent wash to the valuable parts of manure when in a liquid state, as most farmers have their manures, more or less, exposed to rains and wet, and do not always have absorbents to take up the liquid parts in the stable. But I abandoned the use of it after reading a communication from an agricultural chemist of good authority, stating, that although copperas water was an effectual deodorizer, yet, that it changes the parts into an indissoluble salt or substance, and becomes so fixed that it is inert and worthless as a manure.

Not being a chemist, I do not pretend to use chemical terms correctly, or as he did, and I have not the communication before me. I think I read it in your paper, how long since, I cannot say; nor can I remember the author's name. I presume almost every farmer has experienced the same difficulty as your correspondent, in not knowing how to save his manure from waste by heating, and the loss in liquid manure when he could not obtain absorbents, or use it on the soil immediately. If the copperas will effect that object for which you recommend it, and not be liable to the objections raised by the writer I refer to, it would be a convenient and not expensive remedy. D. P. WALWORTH.

Coventry, Vt., March, 1861.

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HON. SIMON BROWN,—*Dear Sir:*—In reply to Mr. D. P. Walworth's letter, which you have transmitted to me for my opinion, I would say: Copperas, (sulphate of the protoxide of iron,) will undoubtedly fix ammonia as a sulphate, but at the same time will render the phosphoric acid an insoluble compound, namely, phosphate of iron. Gypsum, (plaster of Paris,) is undoubtedly better, but a mixture of swamp muck or peat, with the plaster, is still better; say 20 pounds of ground gypsum to 200 pounds of wet muck or peat. This preparation is a complete absorbent of ammonia, and will effectually prevent the heatings of a manure heap, and the loss of valuable volatile matters.

If muck or peat is not at hand, rotten wood, partially decayed straw and weeds will answer, and in case these cannot be obtained in adequate quantities, mix the ground gypsum freely with the manure.

As to fixing ammonia, I would remark that the more decomposable salts, especially the carbonate, is better than the sulphate of ammonia. The combination of ammonia with the organic acids of peat, namely, the crenic, apocrenic and humic acids, is one of the most valuable of manures. In the mixture I have named, we shall have both the sulphate and the organic acid compounds of ammonia, and a portion of carbonate of lime.

In a conversation some years since with Prof. Joseph Henry, Secretary of the Smithsonian Institution, he remarked that the best manures were the *unstable compounds*. Hence I remarked the value of *stable* manure.

Respectfully, your obd't servant,

CHARLES T. JACKSON, M. D.,

Boston, March 26, 1861. *State Assayer.*

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SEA KALE AND ASPARAGUS.

I would like information in regard to the cultivation of sea kale. What kind of soil is necessary, and how is it prepared? How many roots would be required for a family of six or eight persons, and what distance should the plants be set? Where can the plants be obtained?

I would like information in regard to asparagus, how to prepare the ground, &c. AXY.

Weston, April, 1861.

REMARKS.—The soil for sea kale should be light, moderately rich, and deep. Sow the seed in drills as early in the spring as the ground can be brought into proper condition. Let the plants stand where they came up, and have them twelve inches apart in the row. The plants are a long time in making their appearance, never sooner than six weeks, we believe. They must be protected in winter by straw or leaves.

ASPARAGUS.—Trench the ground two feet deep, and while the operation is going on, mingle manure freely with the soil. Set the roots in rows two feet apart, and one foot apart in the rows. Keep all weeds down, and the ground well spaded and light, and you will have a good bed of asparagus for a life time.

—

ITALIAN QUEEN BEES.

I wish those persons who purchased and kept the Italian queen bee last year, would report their success with them, through the *Farmer*, and let us know whether they are an improvement over our old stock. Many of us in this region would be glad to buy, if that variety is really any better than what we have. H. G.

West Salisbury, N. H., 1861.

PRUNING.

The object and the true manner of pruning fruit trees are still imperfectly understood. We have expressed our own opinions so many times, that we will not now repeat them, but quote some others who are authorities in this matter. The subject is suggested to us by noticing the ground in some orchards strewed with limbs cut off late in March.

Professor LINDLEY says—"The object of the pruner is to diminish the number of leaves and branches; whence it may be at once understood how delicate are the operations the operator has to practice, and how thorough a knowledge he ought to possess of all the laws which regulate the action of the organs of vegetation. If well directed, pruning is one of the most useful, and if ill-directed, it is among the most mischievous, operations that can take place upon a plant.

"When a portion of a healthy plant is cut off, all that sap which would have been expended in supporting the part removed is directed into the parts which remain, and more especially into those in the immediate vicinity of it.

* * * * "Nothing is more strictly to be guarded against than the disposition to *bleed* which occurs in some plants when pruned, and to such an extent as to threaten them with death. * * * If this is allowed to continue, the system becomes so exhausted as to be unable to recover from the shock, and the plant will either become very unhealthy, or will die. The only mode of avoiding it is to take care *never to wound such trees* at the time when their sap first begins to flow; after a time, *the demand upon the system by the leaves becomes so great* that there is no surplus, and therefore bleeding does not take place when a wound is inflicted."

This is one reason why we recommend pruning in June; the leaves have then appropriated the sap, leaving the wood comparatively free from it, so that where limbs are cut they do not bleed.

Prof. LINDLEY continues:—"The season for pruning is usually midwinter, or at midsummer. * * * During the season of rest (winter) a plant continues to absorb food solely from the earth by its roots; and if its branches are unpruned, the sap thus and then introduced into the system will be distributed equally all through it. If late pruning (that is, spring, not *winter*,) is had recourse to, of course a large proportion of the sap that has been accumulating during the winter will be thrown away."

On all matters of this nature, DOWNING is received as a safe guide,—let us see what he says in relation to the particular time for pruning. He and LINDLEY, both speak of *winter* pruning. We will not dwell upon this, because in our severe climate, this practice is hardly resorted to by farmers. In his "Fruits and Fruit Trees of America," Downing says: "*The best season for pruning to promote growth*, theoretically, is in autumn, soon after the fall of the leaf. Next to this, winter pruning, performed in mild weather, is best. In all parts of the country where the winters are not very severe, the roots are collecting a stock of nourishment during the whole autumn and winter. When a tree is pruned in autumn or winter this whole supply goes to the remaining branches, while in case of spring pruning it is partly lost.

"We should *especially avoid pruning* at that period in spring when the buds are swelling, and the sap is in full flow, as the loss of sap by bleeding is very injurious to most trees, and in some, brings on a serious and incurable canker in the buds.

"There are advantages and disadvantages attending all seasons of pruning, but *our own experience* has led us to believe that, practically, a *fortnight before midsummer* IS BY FAR THE BEST *season, on the whole, for pruning in the Northern and Middle States.* Wounds made at this season heal over freely and rapidly; it is the most favorable time to judge of the shape and balance of the head, and to see at a glance which branches require removal; and all the stock of organizable matter in the tree is directed to the branches that remain.

In Thomas's "Fruit Culturist," an excellent work, we find the following paragraph:

"*Season for Pruning.*—Thinning out the heads of old trees, or heading back for grafting, may be performed in autumn or winter, and on younger trees, just before midsummer, when, the tree being in a growing state, the operator can judge better of the shape the head is assuming, and act accordingly; and *the wounds are soon healed by new wood.*

In his "American Fruit Book," COLE says:

"Slight pruning, in which very small limbs, or dead limbs of any size, are removed, may be performed when most convenient in any season. Moderate pruning should be done in June, July or August, though it will answer very well till December. If trees are pruned in July or August or September, the wood will become hard, sound and well seasoned, and commence healing over; and it is not material, otherwise than for appearance, whether it heals over the first, second or third year, as it will remain in a healthy state.

"We should prefer October, November or even December to the spring, which is the worst season. The trees then are full of sap, and it oozes out at the wound, which turns black and decays, like a tree cut in the spring and allowed to retain the bark. But if limbs, ever so large, are cut in August and September, the wood will become hard and remain so, if it never heals over.

"Thirty-two years ago, in September, we cut a very large branch from an apple-tree, on account of injury by a gale. The tree was old, and it has

never healed over; but it is now sound, and almost as hard as horn, and the tree perfectly sound around it. A few years before and after large limbs were cut from the same tree in the spring; and where they were cut off the tree has rotted, so that a quart measure may be put into the cavities."

We have other high authorities to the same point before us, but the length of this article already forbids our citing them. It is certainly important that, after we have been twenty years in rearing a good tree, we shall not ruin it by one or two improper prunings.

For the New England Farmer.

THE MANGOLD WURTZEL.

MR EDITOR:—In the last number of your valuable paper I was pleased to see the attention of your readers called to the cultivation of the mangold. While I agree with your correspondent from Bolton, as to the value of the root, I think I can point out a much easier and cheaper method of cultivation. And here permit me to say, that I am largely indebted to the instructions and kind personal supervision of the senior editor of the *Farmer*, while one of the Trustees of the State Reform School, for whatever success I have had in raising the mangold. This root will grow on almost any good soil, but I prefer a deep sandy loam, and the more free from weeds the better. Plow well, nine or ten inches deep, and break lumps thoroughly with the harrow and bush. Then begin on one side, and with a horse plow, make five *deep* furrows, as *straight* as a line, and just three feet apart Fill those furrows with stable manure or good compost, at the rate of 25 to 40 ox cart loads to the acre, according to the strength of the manure, scatter salt upon the manure equal to two bushels per acre, turn two light furrows upon each row of manure, rake the ridges thus made lengthwise, then make five more furrows, and proceed in the same way till the whole field is finished. Sow with a machine, and be generous with the seed. This method gives just room to pass between the rows with the horse hoe, and as the plants stand higher than the spaces, this may be done when they are very small. Turn the mould from the plants first, then towards them, keep it stirring, and very little hand work will be necessary. Thin the plants to as near eight inches as possible, and let not a weed grow in the field. When the tops begin to turn yellow gather the lower leaves for the cows, and you will be well paid for the trouble. I have cultivated them in this way for two seasons, on the State Farm, and with such success that I shall pursue the same course for myself, unless some of your readers can show me a better way. I would add, the mangold is excellent in the spring of the year for working oxen, and swine eat them greedily, whether raw or cooked.

E. BRIGHAM.

Westboro', March 28, 1861.

REMARKS.—There it is, fellow-laborer, all in a nut-shell, as it were. Follow the above directions, and you will never fail of getting a good crop, and get it cheap.

For the New England Farmer.

SUPERPHOSPHATE OF LIME---COMPOST.

MR. EDITOR:—What do you think of Coe's superphosphate of lime? Is it, in your opinion, a permanent fertilizer, or does it partake more of the nature of a stimulant? What should you think of a compost composed of, say, one cord of stable manure, two cords good meadow muck and two bags (250 lbs.) superphosphate? Could it not reasonably be expected that such a compost would prove to be good food for almost any crop? Should you prefer the same money value ($5,62) of night-soil, at $3 a load, to the superphosphate? From what little I have seen of the effects of sulphate of lime I am strongly inclined to the belief that a judicious use of it, together with good meadow muck, on our lands, would restore them to their original fertility. My first bag was purchased in August, 1855, and all but about a peck of it used on turnips, with most satisfactory results. In April, of the following year, the remaining peck was sown, by way of experiment, on a shallow meadow, or more properly run, that never had been plowed, and which produced a rather light crop of hay of poor quality. It was sown, I should judge, at the rate of about one ton to the acre. The effects of the application were almost immediately seen, and were to me truly surprising. In a short time the exact dimensions of the spot dressed could be plainly distinguished even at a distance, and the crop, I think, was more than doubled in quantity, besides the quality being increased in equal ratio. But the best of the story remains to be told. Five crops have since been taken off the piece, without applying any more manure of any kind, and the last was, in my opinion, quite equal to the first, both as regards quantity and quality—it was, in fact, a heavy crop of clover, red-top and herds grass. I might give other facts respecting its good effects on various other crops, as per my own experience, but as I took up my pen simply to get your opinion on that compost, I will stop here.

J. L. SMITH.

Winchester, Mass., April, 1861.

REMARKS.—We think a genuine superphosphate of lime is a decided fertilizer, one that will be felt for several years. The compost you mention must be valuable, and would be better, we think, than the same money's worth of night-soil at the price you name.

PEANUTS.—The Peanut is cultivated in Georgia, Alabama, North Carolina, &c. It is planted in ridges about three feet apart, and the vine stands about a foot in perpendicular height. The stems shoot out in all directions from it for about fifteen inches around. These runners have joints about an inch and a half apart; and at each joint a strong root strikes down into the ground about two inches deep; at the end of this root the peapod is formed and comes to maturity. Some farmers cover these lateral vines with earth, while others leave them bare all the time. It is not agreed which is the better mode. When ripe, one bunch of vines will have from one to two quarts of peas. One acre will produce from thirty-five to fifty bushels of peas.

EXTRACTS AND REPLIES.

GRASS SEED—TURNIPS—CARROTS—HORSE AIL.

When is the best time to sow grass seed? There was a general complaint among farmers the past season, about their grass seed not catching well, on account of the dry weather. I would like to know which would be the surest way on a piece of land that was sown down to grass seed last year and did not catch,—to plow it up and sow with grain, or sow it on the land?

Are turnips a profitable crop? I have tried the ruta baga turnip for some years past, and I think I can get more profit on the same number of rods in turnips than any other crop, but I cannot raise half a crop of anything else the next year with all the manure I can produce. If they are as exhausting to the soil as it appears, I would like to know it.

TURNIPS FOR CATTLE.

I would like to inquire if turnips are good for cows that give milk, and if you can fat cattle on them?

CARROTS FOR THE HORSE AIL.

I have a young horse that I have kept frequently on hay, grain and potatoes, and as the horse ail is about this spring, I noticed a week ago, that my horse had it coming on; he had a cough and all the other symptoms of it; I went to feeding him on carrots and his cough ceased and I have not seen any symptoms of it since. If carrots will prevent it, I would like to know it.

I have, also, a young horse that I do not work that is troubled with worms. If you can tell me of any cure for them, you will oblige me very much. S. HYDE.

Vermont, 1861.

REMARKS.—It will be best to plow the land, manure a little if possible, and sow grass seed with some grain.

Many people think turnips a profitable crop—we have no doubt they are so, when skilfully cultivated. They are excellent for cattle, making a grateful change from dry fodder. They should be fed to milch cows sparingly, and always just after they are milked. Ruta bagas are considered an exhausting crop, and should be followed by some hoed crop well manured. We have no doubt but carrots would be highly useful for a horse sick with "horse ail," but have never known it prescribed as a *medicine*.

For the other trouble you mention, give the horse a gill of clean wood ashes in cut feed, twice a week for two weeks.

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PINE LEAVES AND SEA-WEED.

I would be pleased to know if the debris of our pine forests is a suitable material to form a portion of the manure heap or compost heap.

I have used it myself for eight or ten years as a bedding for my horse and cow, and find it a good absorbent and easily decomposed, but some of my neighbors think the pitchy substance injurious to the growth of grass or other vegetables, and prefer the use of sea-weed. I would like to know its chemical components, and will furnish any necessary quantity of either or both for that purpose. My own experience leads me to conclude the pine needles to be decidedly the best, and as there is any quantity of this material in our vicinity, it would sensibly benefit our farming interest to know the facts in this case.

NATHAN BRIGGS.

REMARKS.—We know of no means of giving you the precise facts you desire. We should certainly use a large amount of pine leaves, if we could get them cheaply. What the comparative value of such leaves and sea-weed is, we have no means of knowing.

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VERMIN ON COLTS—SAWDUST AS BEDDING.

Will you, or some of your numerous subscribers to the *Farmer*, inform me of the best method to exterminate lice upon colts. I have tried various remedies, but have not as yet been quite successful, although I have to some extent. Also, will you inform me what your opinion is as to the practice of using sawdust for bedding for cattle. I have used it, more or less, for two years past; but I find my manure heaps heat badly, and unless I take pains to spread it about often in my cellar it is apt to burn. Will it injure the manure materially if it simply heats but does not burn? A SUBSCRIBER.

East Princeton, April, 1861.

REMARKS.—For your colt try the new preparation of tobacco, sold by Fisher & Co., 23 Central Wharf, Boston.

Sawdust is undoubtedly useful as bedding for cattle. A slight heating accelerates decomposition without at all injuring the manure.

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GUANO AND COMPOSTS FOR GARDENING.

Having been a reader of your valuable paper for a number of years, and having undertaken for three years past to do something at gardening, and calculating to continue in that line of business, I wish you would inform me whether the Peruvian guano is considered a profitable fertilizer for a garden. Is it good for the raising of onions, beets, carrots, cabbages, and other kinds of garden sauce? If so, how best applied?

S. Acworth, N. H., 1861. JOSEPH BALL.

REMARKS.—We have no doubt that Peruvian guano may be profitably used, if it can be purchased for $40 per ton. At the present price, $65, we do not believe it can be. You may find several recipes in the monthly *Farmer*, since January, for making special composts for the garden, that will be excellent. Bridgman's Gardener's Assistant will be a good book for you.

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CHINESE SUGAR CANE.

I wish to inquire if the Chinese sugar cane can be raised in this State, and if so, would it be profitable? I have been in Wisconsin for the last five years, where I saw it raised, and the process of making molasses from it; they planted it about the 20th of May, and by the first of September it was ready for the sugar mill. They

boiled it in iron pans, and the molasses was some bitter. How can it be made so that it be clear and sweet? N. CAULKINS.

E. Lempster, N. H., 1861.

REMARKS.—When molasses is selling at one dollar per gallon, it may be good policy to raise the Chinese sugar cane in New Hampshire, but not before. Raise a good crop of wheat, and with a portion of its proceeds purchase what molasses you need at less than 40 cts. per gallon. Your seasons are not long enough.

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FOR SMOOTHING SEEDED LAND.

I would like your opinion through the columns of the *Farmer* as to whether it would be profitable to buy some of the concentrated manures—such as the poudrette or superphosphate of lime, and if so, which would be the best to put in the hill for planting corn, where the soil is gravelly, pine and hard wood upland, with clayey hardpan bottom.

Having noticed descriptions of several modes for smoothing ground when seeded, I will give you a description of mine. Take two pieces of plank four feet long, scarf off like a sled runner, place about four feet apart, and cover the bottom with boards six or eight feet long, according to the smoothness of the ground it is to work on. Make two holes through one board near the planks on the crook, and through the planks, to pass your chain to hitch to like a spread chain, and it is ready for use. To use it, hitch a pair of horses to it and get on near the hind part, and if your ground is suitable to seed it will soon be as smooth as a house floor after passing over it.

Lyman, N. H., 1861. GRAFTON.

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ONIONS AND PEAS.

Will you inform me through your paper of the best method of planting onions? Will peas do well planted early in the following manner; plant about two inches deep, and as soon as they begin to break ground cover them with fine earth one or two inches deep, again, and so on until from six to eight inches deep? G.

Fairhaven, April, 1861.

REMARKS. — Onions need a rich, fine soil, though not so deep a one as for carrots, &c. Sow as soon as the ground is sufficiently warm and dry, in rows fifteen to twenty inches apart, and wider, if you cultivate with a horse. We have never known such an experiment with peas.

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HOW ONIONS ARE PLANTED.

At a late meeting of farmers in Boston, an intelligent farmer from the Western part of the State inquired of me how onions were planted to prevent their becoming skillions—that is, plants with large tops and no bottoms. I told him that little or no inconvenience of this kind was experienced in this vicinity. In the first place, the growers of onions raise their own seed, and they are careful to select for this purpose sound onions of the size and form they wish to grow. These are set out usually on strong land, and carefully looked after when growing, and when ripe the seed is gathered and dried and secured for use—always being careful that no foul seed of any kind shall be mixed with it. The earliest work of the spring is to prepare the ground for onions, the same having been fully manured and finely pulverized. These things having been attended to, there is no danger to the crop except the maggot.

South Danvers, March, 1861.

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GLUE FOR BORERS.

Can you give me any information relative to the protection from borers offered to fruit trees (the apple) by a coating of dissolved glue? I have been informed that it would effectually protect the apple tree, without injury to the tree—still, before risking my trees with a coating, I am anxious for better authority than I am already in possession of.

Brandon, Vt., 1861.

REMARKS.—Have never known such a remedy tried. Would not the rains soon wash off any coating of glue?

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TWELVE-ROWED AND EIGHT-ROWED CORN.

Mr. Basset, in a late paper, has an article headed, "12-rowed and 8-rowed corn." Some have said that the 12-rowed is better and contains twice as much flour as the 8-rowed. I do not think so. The 12-rowed is not of as good quality, does not contain as much nutriment as the 8-rowed, and when ground there is more hull in the meal and it is not as sweet as the 8-rowed.

Fairhaven, 1861. A CONSTANT READER.

WHAT APPLE TREES SHALL WE SET?

Would it not be well for you to make a selection of apple trees for this latitude, of such as would be best for us to raise? It certainly would be very acceptable to your numerous readers in this section. We want to know what are some of the best sweet, summer, fall and winter apples.

Westfield, April, 1861. C. L. INGERSOLL.

REMARKS.—We find in *Hovey's Magazine* for April the following list of apples recommended by a correspondent of that journal as suitable for Worcester county. They are probably equally as well adapted to any portion of the State south of that county. They are numbered about in the order that they come into eating.

1. Red Astrachan,
2. Bough,
3. Williams,
4. Porter,
5. Gravenstein,
6. Fameuse,
7. Leland's Spice,
8. Hubbardston Nonsuch,
9. R. I. Greening,
10. Ladies' Sweeting,
11. Baldwin,
12. Roxbury Russet.

We suppose by "Bough," the writer means the *Early Sweet Bough*, which ripens early in August. To the summer apples we should add, the *Early Harvest* and *Sops of Wine*.

To the fall apples, the *Fall Pippin*, *Pumpkin Sweet*, *Maiden's Blush* and *Russet Sweet*, the latter one of the finest baking apples that ever grew. It is of rather more than medium size,

has occasional warts, the ends of which are smooth—that is, are not russet like the other portions of the skin. It is a juicy and excellent dessert apple, for those fond of sweet apples, and when baked has a thin skin, and is really delicious.

Among the winter apples we should recommend the *Danvers Winter Sweet, Minister, Northern Spy, Winter Green Sweeting.* We are now using—middle of April—the Northern Spy and Winter Green Sweeting every day, and find them all that ought to be expected of a late apple. While the best Baldwins are slow at $1,50, we have known sales of the Northern Spy at $4.

There are not half enough *sweet* apples used, as no food seems to us more profitable or healthy than good baked sweet apples. They ought to take the place, from the first of March to the first of June, of tons of the flesh that is consumed by our people—and especially so with children. We do not believe that more than one family in fifty in the State has a barrel of sweet apples in the house to-day, if, indeed, they have them of any kind! This should not be so.

HORTICULTURAL HINTS.

THE CLIMBING PLANTS.

No class of plants are more useful in the hands of the skilful gardener than the climbers. They possess almost miraculous powers, transforming any unsightly out-building into an object of real beauty. No good gardener will have any bare board fences about his premises,—all are wreathed and festooned, and made gay and graceful. Then for covering cottage verandahs, what can equal this class of plants? They put to the blush all the expensive work of the architect, and the builder, and make the poor man's cottage appear more elegant—possessing more of nature—more of quiet grace—than the palace of a prince. For this purpose, the hardy varieties of grape vines are very useful.

The *Virginia Creeper* is an excellent climber, and although a native of our own land, much more popular in Europe than with us. Its leaves are digitate, of a dark rich green in summer, and becoming of a rich crimson in the autumn. It throws out little roots at the joints, by which it fastens itself to anything it touches.

The *Honeysuckles* we have in great variety, and everybody loves them, though we are sorry so few show their love in a practical way.

The *Periploca Virginian* or *Silk* is a rapid growing, fine climber, and will twine itself round a tree or any other object for twenty or forty feet in height. The foliage is bright and glossy, but the flowers are brown and not showy.

The *Chinese Wistaria* is one of the most rapid growing of all climbing plants, after it gets a fair start. Sometimes, for some unaccountable reason, it refuses to make any material growth for a year or two after being planted, but all at once takes a start and makes a splendid growth, throwing out shoots ten, fifteen, and twenty feet in length, in one season. It commences blooming early in June, and a large plant will be literally loaded with thousands of rich clusters or pendulous racemes of delicate, pale blue blossoms, so numerous that the plant seems to be a floral wreath. The racemes are from ten to twelve inches long, and well filled with delicate sweetly perfumed flowers. The foliage is abundant, and of a pleasant lively green. It succeeds best in a rich deep loam. It does not flower until the plant gets strong, and the older the plant the more freely it seems to flower.

The *Climbing Roses* are now to be had of almost every variety of color, and should be extensively planted.

The *Bignonia* or *Trumpet Flower* is a magnificent climbing plant, producing large trumpet-shaped climbing flowers with something of an orange tinge, and of great beauty. They are produced in clusters. A good plant trained to a pillar or trellis, when in flower, presents a most splendid sight.—*Exchange.*

FLOWER CULTURE---ASTERS, &c.

The cultivation of flowers is becoming more interesting of late than formerly, and well it may, for great improvements have recently been made in producing new and choice varieties, which far excel in form and beauty those of former times. It is especially so with the family of Asters. We have grown many varieties the past season, such as "*Truffant's New French Pœony Flowered,*" "*German Quilled,*" of all colors and tints, "*Ranunculus,*" "*Pœony Perfection,*" and "*Negley's Giant Emperor,*" extra large, and every variety of colors. We planted a bed, some 6 by 8 feet, containing all of the above varieties, mixed, and we were highly gratified with the result. We had a splendid bed of flowers, and think we had a finer display than to cultivate each variety separate.

We had specimens three inches in diameter, and there were all sizes from these to the half globe, an inch across. They were of all colors, (except yellow,) from dark purple to deep red, rose, pink, lavender and white, with all the intermediate shades. Instead of the single ray of the old sorts, the entire centre was filled with petals or quills beautifully tipped with various colors. We have with much care preserved a quantity of seeds of the above mixed varieties, and anticipate a more beautiful display the coming season.

THE GREEN CENTERED HELIANTHUS.—This new and beautiful annual attains the hight of the Dahlia, displaying a profusion of flowers of a bright *golden border*, with a *green centre*, with a fine velvety appearance, in the form of a half sphere—some 3 to 7 inches across. One plant will produce from 10 to 25 blossoms at one time, and will last in perfection ten or twelve days. This new and improved species of the Helianthus needs only to be seen growing in all its splendid beauty to be appreciated—the flowers truly represent a "golden cushion, fit for a royal crown at a grand coronation of Flora." We deem it one of the greatest of the recent acquisitions to our annual flowers. Being easy of culture, it should be grown by all who are fond of flowers.—*Country Gentleman.*